University of Alberta

Metacognitive Strategies And Problem-Solving With An Adult Subject Living With Chronic Psychiatric Illness

by

Keina Allan

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of
Master of Education

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Abstract

This study examined the effectiveness of the Strategies Program for Effective Learning and Thinking (SPELT) in facilitating the maintenance and generalization of problem-solving skills in an adult subject who lives with Bipolar Disorder.

The research used a single case design. Problem-solving skills were taught over a period of twenty-two sessions, approximately 90 minutes each, using the SPELT instructional process. Pretests and posttests were administered and all instructional sessions were tape recorded. Pretest and posttest data were analyzed quantitatively and compared to determine if there had been any significant change. The transcripts from the recorded data were analyzed deductively and inductively. Results from both analyses were compared for discrepancies.

The conclusion of this study is that the SPELT instructional system did facilitate maintenance and generalization of problem-solving skills for the participant. The recommendation of this study is that further research should be undertaken using the SPELT instructional method to teach problem-solving skills to a more diverse psychiatric population.

Dedication

To my children,
Elayna and Aaron,
with love.

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Chapter One

Introduction

Statement of the Problem

The Canadian Mental Health Association (CMHA) recently released the following mental health statistics for 1999 (representative of CMHA, personal communication, December 6, 1999). One in five Canadians (both children and adults) will be diagnosed with a mental illness in his/her lifetime. This year absenteeism due to some form of mental illness (most frequently stress) will cost the Canadian economy 5 billion dollars. Also, this year 9,000 Canadians will take their own lives or die from complications related to mental illness (the CMHA adds that this figure may actually be higher). Finally, the statistics on depression are especially relevant to this research. Nearly two-thirds of people who are mentally ill, particularly with depression, do not receive adequate treatment. According to the CMHA, 80% of those diagnosed with depression can recover if effective treatment is given. Effective treatment consists of psychosocial interventions in addition to psychopharmacological intervention.

Economic pressures and the development of a variety of more effective psychopharmacological treatments have lead to a decrease in the length of hospital stays for patients diagnosed with mental illness. Consequently, immediate symptoms are treated pharmacologically and psychosocial treatments are not always addressed. Without these additional treatments, patients' cognitions, behavior, and affect remain the same and the integrated change necessary for recovery or optimal management of illness does not occur. This results in more frequent visits to primary care physicians, which puts a further drain on the health care system (Gath, Anastasiades, Bond, Day, & Hall,

1991). It also results in a poorer quality of life and risk of suicide for those patients who receive minimum or no intervention at the behavioral and/or psychosocial level. The literature supports the use of instruction in problem-solving skills as a promising alternative to this predicament.

The literature suggests that there is a relationship between a deficiency in problem-solving abilities, poor social adjustment and psychopathology (Nezu & Perri,1989). Previous research into the use of problem-solving training as a therapeutic intervention has shown promising results for a range of psychiatric populations. Positive effects have been seen in individuals diagnosed with affective disorders, suicidal ideation, and schizophrenia. In addition, positive effects have been seen in individuals who have experienced brain trauma and subsequently developed problem-solving disorders. However, the problem-solving interventions with these populations has, in most cases, been primarily focused on the immediate instruction of methods and heuristics. Generally, this has had positive results within the treatment environment but generalization and maintenance effects have only been seen for limited periods of time. The long term effect of this can be a fading of skills which leads to a decrease in the ability to function, and this necessitates further intervention. Given the chronicity of many mental disorders, and the fact that problem-solving skills are one of the first casualties of chronic mental illness (Trower, Bryant, & Argyle, 1978), the maintenance and generalization of these skills should be of paramount importance.

Purpose

The purpose of this study was to explore the effectiveness of "The Strategies Program For Effective Learning/Thinking" (SPELT) in supporting and enhancing the

generalization and maintenance of problem solving skills to daily living. SPELT is an embedded strategy-based instructional model which, when used in conjunction with a five step problem solving curriculum, promises to be a viable tool for improving cognitive performance in daily problem-solving over the long term.

Research Questions

One general question was the focus of this research: Does the SPELT approach to problem-solving instruction support the maintenance and generalization of problem-solving skills to daily living, for a clinically stable, adult psychiatric patient with chronic mental illness? There were four specific subquestions:

1. Has there been improvement in self-perception, self-esteem, problem-solving skills, and locus of control?
2. Have problem-solving skills been generalized and maintained?
3. If so, has the SPELT method of instruction facilitated these effects?
4. Do these results support further research with the SPELT system?

Design and Rationale

Due to the exploratory nature of the study, a single case design was used. Data were analyzed using both quantitative and qualitative methods in order to investigate issues from multiple perspectives. The quantitative data were measured using a pretest/posttest comparison of four instruments: (a) the Adult Self-Perception Profile (Messer & Harter, 1984); (b) the Coopersmith Self-Esteem Inventory (Coppersmith, 1981); (c) the Problem Solving Inventory (Heppner, 1988); and (d) Rotter's Internal/External Locus of Control Scale (Rotter, 1966).

The instruments that were used for the quantitative analysis in this study were chosen because it was expected that there would be a marked difference between pretest and posttest scores, indicative of positive gains in the areas measured. The Adult Self-Perception Profile "allows for the examination of an individual's profile of perceived competencies across different domains" (Messer& Harter, 1986, p.1). These competencies are measured across twelve domains, including one which examines perceived job competency. A successful problem-solving intervention should increase perceived competency in this domain and any others that are related to this area. This increase in perceived competency would be evident in posttest scores.

The Coopersmith Self-Esteem Inventory is designed to measure overall self-esteem, that is, "the extent to which a person believes him-or herself *competent* [italics added], successful, significant, and worthy" (Coppersmith,1981, p.1-2). According to Collier (1994), this evaluation of the self develops early in life and is achieved through social comparison. Although the concepts of self-esteem and self-efficacy are often used interchangeably as though they describe the same concept, according to Bandura (1997), they are two entirely separate concepts. However, given that the concept of self-esteem includes an evaluation of competence, which is a component of efficacy, it seems logical to expect a positive trend in self-esteem posttest scores after a successful problem-solving intervention.

The Problem-Solving Inventory was designed "to assess an individual's perceptions of his or her own problem-solving behavior and attitudes"(Heppner, 1988). This instrument is comprised of three separate factors which make up the overall scale. A successful problem-solving intervention should be reflected in the posttest scores

across all three factors in addition to the overall scale. This instrument should be a direct measure of the effectiveness of the research.

Rotter's Internal-External Locus of Control Scale is an acquired measure of generalized expectancy. "Those who are internal see reinforcements as contingent on their own behavior....whereas those who are external believe that what happens to them occurs as a result of forces beyond their control..." (Collier, 1994, p.64). According to Lefcourt (1982), there is a relationship between locus of control and type of psychiatric disorder. With the exception of patients who suffer from mania, who tend to be extremely internal, psychiatric patients generally tend to be more external than non psychiatric patients. Furthermore, therapeutic intervention should facilitate trends toward the external for psychiatric patients who are manic and towards the internal for other psychiatric patients (with the exception of individuals suffering from schizophrenia who remain the same)(Lefcourt, 1982). Therefore, given that the participant in this research has been diagnosed with Bipolar Disorder with psychotic features associated with manic episodes, a successful problem-solving intervention should be reflected in a trend toward the external in the posttest score.

Definition of Terms

The terms self-efficacy, efficacy , empowerment, and personal power, which will be used in this research, need clarification. Bandura uses the word efficacy when referring to perceived self-efficacy, which he defines as " beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Mulcahy et al. use the term *metacognitive empowerment* to describe the state when students, "... become aware and convinced that their use of

strategies results in improved learning and performance..."(Mulcahy, Short, & Andrews, 1991, p. 83). Aleksiuk (1996), equates personal self-efficacy with personal power and defines the latter as " the perception by the individual that he or she has the ability to take effective action" (Aleksiuk, 1996, p.218). Each of these states: efficacy, empowerment, and personal power, refer to the individual's conviction that she/he can perform domain specific tasks. Therefore, although the terms used will vary, according to the preference of the individual author being discussed, the concepts will be regarded as essentially the same.

Heppner(1988) defines problem-solving as "any goal directed sequence of cognitive operations (Anderson, 1980) employed for the purpose of adapting to internal/external demands or challenges (Sternberg & Salter, 1984)"(p.1). For the purposes of this research, this goal directed sequence of cognitive operations will be further defined as the following five steps delineated by the IDEAL problem solving strategy (Bransford & Stein, 1984): (a) identification of the problem; (b) definition of the problem; (c) exploration of strategies to deal with the problem; (d) acting on a strategy after looking at projected outcomes and deciding on a feasible strategy; and (e) looking at the results of the application of the strategy, and, if it did not work, returning to the previous step and deciding on another strategy.

Nezu and Peri (1989) define their orientation step as a process that "involves various beliefs, assumptions, appraisals, and expectations concerning life's problems and one's problem-solving ability" (p. 408). In other words, it is a process of building problem-solving efficacy. For the purposes of this study the terms orientation step and efficacy component will refer to this concept.

Within the context of this study the term clinically significant will be defined as, "changes in the client's behaviors [that] bring him or her within the level of his or her peers who are functioning adequately in society" (Barlow and Hersen, 1984, p.286). Furthermore, in the pretest/posttest qualitative analysis, changes will be considered significant if there is a comparative difference of one standard deviation or more between scales.

Limitations and Significance

The results of this research cannot be generalized to a larger population because there was only one subject involved. The subject was a clinically stable adult who had been diagnosed with Bipolar Disorder with psychotic features. The goal of the study was to accumulate as much information as possible on the effect of the SPELT method in teaching problem-solving skills to this clinically stable adult subject. Positive results from this pilot study could provide a foundation for further research into the use of the SPELT method in teaching problem-solving to groups of adult psychiatric patients. In addition, the success of the SPELT method in teaching problem-solving skills could have positive implications for self-monitoring and compliance, two difficult to acquire skills which are especially relevant for this population.

Organization of the Thesis

This thesis is divided into five chapters. The second chapter, which follows this introduction, will review the relevant literature. This includes literature on the relationship between problem-solving, self-efficacy, and mental illness, the results of recent research that used a problem-solving approach as a therapeutic tool, and the effects of previous studies which have used the SPELT instructional system. Chapter

three will outline the methods used to collect and analyze the data. It will also include the rationale for the study, the consent and ethics requirements, and a brief description of the personality, background, and lifestyle of the participant. Chapter four will present and discuss the findings. Quantitative and qualitative data will be examined individually and then compared to determine if there were any discrepancies. Finally, chapter five will present conclusions and recommendations.

Chapter Two

Literature Review

Problem-Solving Skills and Mental Illness

According to Aleksiuk (1996) the most significant precipitating factor in psychopathology is stress. Bellack and Herson (1979) further explain that there are many sources of stress that can precipitate psychiatric impairment. These sources include social factors (e.g., unemployment, religious affiliation, gender, race), physical disease, trauma, and family experiences. Furthermore, individuals may have different levels of vulnerability (e.g., genetic, biochemical, social deprivation, family processes) to psychopathology. Bellack and Herson clarify the direct relationship between stress, vulnerability and psychopathology. "When stresses surpass the individual's vulnerability threshold, the individual can no longer cope and psychopathology may be precipitated." (Bellack & Herson, 1979, p.48-49). In addition, once a psychopathology has developed, all levels of behavior are affected, which further deteriorates the ability to respond functionally to daily problems (Trower, Bryant, & Argyle, 1978). For instance, even casual conversation, which is a frequent daily occurrence, requires a substantial amount of problem solving skill (Bellack & Hersen, 1979). Nonverbal cues such as body language, facial expression, and tone of voice must all be interpreted and integrated with the verbal message before a response can be formulated.

Many psychiatric patients are recognized " first and foremost through abnormalities of social behavior" (Trower, Bryant, & Argyle, 1978). This abnormal behavior is a function of maladaptive responses to daily problems. According to Maddux (1995), maladaptive or ineffective and inefficient responses are chosen from a

continuum of responses ranging from normal to abnormal. Meichenbaum (1978) further elaborates that nonclinical populations may hold many of the unreasonable beliefs that are typical of clinical populations. It is the strategies that they use to respond to these unreasonable beliefs that distinguishes them from clinical populations. These strategies are a product of creative problem solving or flexible divergent thinking. Empirical evidence supports the supposition that individuals who are more creative use a different internal dialogue and substantially more effective cognitive strategies, than individuals who are less creative, which results in better problem solving. Therefore, well developed problem-solving skills would support a more efficient internal dialogue and the development of more effective cognitive strategies. This, in turn, would promote more adaptive responses to daily problems and result in more socially acceptable behavior and better psychological health. This link is supported by Lieberman who indicates that the strengthening of problem-solving abilities can "confer protection against exacerbations of psychiatric symptoms" (Lieberman, 1988, p.4). Cassidy and Long further extend the connection between a lack of good problem-solving skills and mental illness; "problem-solving style is an important variable in the mediation of life stress and psychological health and *illness* [italics added] generally" (Cassidy & Long, 1996, p.275). Therefore, good problem-solving skills play a significant role in protecting the individual from mental *and* physical illness, in addition to preventing an exacerbation of psychiatric symptoms (if used as a therapeutic intervention) once psychopathology has developed.

Self-Efficacy, Problem-Solving, and Mental Health

Another significant factor which effects mental health is self-efficacy. A growing

body of research supports the hypothesis that an optimistic sense of personal efficacy is necessary for positive well-being or empowerment (Bandura, 1997). The importance of empowerment and personal responsibility in the maintenance of good mental health has been evidenced in many theories. These include Rotter's internal/external locus of control; Seligman's learned helplessness; Glasser's reality therapy; Beck's cognitive therapy; Ellis's rational-emotive therapy; and Frankl's logotherapy. It is also reiterated in Aleksiuk's (1996) unifying model of human behavior, which suggests that, if an individual's need for personal power is not me,t then some degree of psychopathology results.

According to Bandura (1997), positive self-efficacy can be best facilitated through performance accomplishments and a lowering of emotional arousal. In other words, repeated success at a given task lowers anxiety levels with respect to expectations of failure, and generates a feeling of empowerment in that specific domain. Problem-solving training provides performance feedback and also, " by focusing on realistic outcomes and their likelihoods, may reduce the emotional arousal generated by catastrophizing and employing vague generalizations" (Goldfried, 1995, p.100). In other words, problem-solving training inherently meets the two conditions which best facilitate self-efficacy.

Nezu and Perri (1989) emphasize the interdependent nature of efficacy and problem solving skills. They suggest that an individual must apply problem solving skills and feel self-efficacious in doing so, in order to avoid a negative problem solving orientation. This underscores the importance of empowering the individual in addition to teaching problem-solving skills, in order to effect positive change. According to Bandura

(1997), there is further support for this connection found in the research. He states that, not only do efficacy beliefs increase the rate at which cognitive skills are acquired, but there is also evidence that they have a positive effect on the generation and use of problem-solving strategies. Self-efficacy is a deciding factor in the suitability of the response elicited when an individual is faced with a problem (Bandura, 1997). Furthermore, efficacy beliefs impact on cognitive efficiency directly, in that those who have confidence in their ability to solve problems use their resources effectively and are more persistent when faced with obstacles, than those who doubt their intellectual and cognitive abilities. Thus, both low and high self-efficacy beliefs can be self-perpetuating. Continued failure leads to lack of confidence in ability whereas repeated success supports self-assurance. This suggests that individuals with low problem-solving efficacy beliefs, who develop psychopathology, may be less likely to use effective strategies to cope with psychiatric symptoms. This may result in a more severe form of illness and a poorer prognosis for improvement.

Results of Recent Research Using a Problem-Solving Approach

In the last decade research in teaching problem solving skills to adult psychiatric patients has had mainly positive results, but the generalization and maintenance of these skills has not been reliable. Sautter, Heaney, and O'Neill (1991) describe a five stage model of problem solving which includes problem orientation, definition and formulation, generation of alternative solutions, decision making and solution implementation, and evaluation. With the exception of the problem orientation step, which is concerned with levels of personal efficacy (see p.6), these standard steps are the same in all the recent research presented here and represent the basis of a problem-

solving strategy which will be referred to as PST (this is explained in detail on p.6). The inclusion of the orientation or efficacy step will be noted in relevant research as it effects maintenance outcomes. Pollack (1991) suggests separate groups for PST, with selection of individuals based on level of functioning. Higher functioning groups would be heterogeneous and include patients with mood disorders, schizophrenia, personality disorder and secondary substance abuse. Lower level groups would generally consist of those who are psychotic and often severely regressed, delusional or hallucinatory. However, in much of the following research, treatment was on an individual level or groups were homogeneous. Homogeneous groups were categorized according to the following psychiatric diagnoses; emotional disorders, major or unipolar depression, suicidal adolescents, and schizophrenia.

Affective Disorders

PST as a treatment strategy for emotional disorders in primary care, has been shown to be effective in dealing with symptoms. Catalan, Gath, Anastasiades, Bond, Day, and Hall (1991), randomly assigned 113 patients with emotional disorders and poor prognosis to either a control group or a PST group. The ninth edition of The Present State Examination (PSE) was the instrument used at pretest, posttest and follow-up assessments. At the end of the six week trial, the PST group adjusted mean total score was 5.4 and the control group adjusted mean score was 9.1, a difference of 3.7 (with a 95% confidence interval). This indicates a significantly greater improvement for the PST group as lower scores are indicative of positive results. Results for the follow-up assessment at sixteen weeks posttest did not vary significantly. In addition, patients commented on the helpfulness and appropriateness of the treatment as compared to

traditional treatment with medication.

Mynors-Wallis, Gath, Lloyd-Thomas, and Tomlinson (1995), in a randomized controlled trial of PST, compared results from 91 primary care patients with major depression who were given PST, amitriptyline plus standard management, or a placebo and standard clinical management. PST was found to be as effective as amitriptyline and more effective than placebo for treating this population. Further, patients' satisfaction with PST was high. Neither of these groups used the initial orientation step in PST and, although there were some incidental maintenance effects after the first study, these were not a specific goal of the intervention.

PST treatment of patients with emotional disorders in primary care has also been shown to be cost effective. Mynors-Wallis, Davies, Gray, Barbour, and Gath (1997) did a randomized controlled trial and cost analysis of PST for emotional disorders, given by community nurses in primary care. Seventy primary care patients, identified by their General Practitioners as suffering from an emotional disorder and suitable for the study, were randomly assigned to receive either PST from a trained community nurse or treatment as usual from their general practitioner. Assessments of clinical and economic outcomes were made using the Revised Clinical Interview Schedule (CIS; Lewis & Pelosi, 1992) and three self-rated instruments. The self-rated instruments included: the General Health Questionnaire (GHQ; Goldberg & Hillier, 1979); the Modified Social Adjustment Scale (Cooper et al., 1982); and the Euroqol Scale (Euroqol Copyright Group, 1990) (this scale provides a unitary outcome measure of quality of life). Both the interview and the three instruments were administered pretreatment, and eight and twenty-six weeks post treatment. Although there were no differences in the clinical

outcomes for both groups, patients who received PST had fewer disability days and fewer days off work. They also indicated significantly more satisfaction with the treatment, describing it as helpful or very helpful. In addition, although the health care costs of PST treatment were initially higher than treatment as usual, this was more than offset by the savings accrued in the cost of days off work.

Nezu and Perri (1989), tested the effectiveness of PST as therapy for unipolar depression with particular attention paid to orientation or individual self-effficacy. The 43 depressed subjects were randomly assigned to either a PST group, an APST group (abbreviated problem solving therapy), or a wait-list control group. The APST group did not involve an orientation or efficacy component while the PST group did. Both the PST and the APST groups showed a reduction in depressive symptoms and an increase in effective problem solving as compared to the wait-list group. However, the PST group's effective problem solving skills, as measured by the Heppner and Peterson (1982) Problem-Solving Inventory, were significantly better than those of the APST group. The effects were maintained over a six month period. It is noteworthy that " APST subjects reported lower levels of confidence regarding their problem-solving ability and perceptions of poorer personal control than the PST subjects who received problem-orientation training" (Nezu & Perri, 1989, p. 413). This supports the theory that when an efficacy component is involved in problem solving training, there is an increase in the overall effectiveness of the treatment and it may also positively impact on the maintenance of these skills over the long term.

Suicidal Ideation

Lerner and Clum (1990) evaluated the effectiveness of social problem solving therapy in comparison to supportive therapy in the treatment of older suicidal adolescents. A total of 18 subjects, aged 18 to 24 years, were assigned to either a PST group or a supportive therapy group for ten, 90 minute treatment sessions over a period of five to seven weeks. At post treatment and at three months follow-up, subjects in the PST group were significantly less depressed and showed significantly higher problem solving self-efficacy than the subjects in the supportive group. It should be noted that the PST group's initial session began with problem orientation as described by Nezu and Perri (1989). Salkovskis, Atha, and Storer (1990) also did a comparison study on the effectiveness of PST versus a "treatment as usual" control condition. A total of 20 patients, at high risk of repeated suicide attempts, were randomly assigned to one of the treatment groups. The PST group showed significantly better results than the comparison group and there was some generalization of skills to other problems. However, although descriptive data suggests that benefits persisted beyond the treatment period for the PST group, there was no significant maintenance of skills. This was evidenced by the fact that the PST intervention was only associated with a short-term reduction in the frequency of repeated suicide attempts. This PST treatment did not include an orientation step.

McLeavey, Daly, Ludgate, and Murray (1994) evaluated the effectiveness of interpersonal problem-solving skills training (IPSST) for the treatment of self-poisoning patients. Subjects for this study included thirty-nine patients referred by a psychiatrist to the researchers, after admission to Emergency following self-poisoning. None of the

subjects had a history of psychosis, mental retardation, or organic cognitive impairment, nor did they require hospitalization as an inpatient or day-patient because of psychiatric illness or suicidal risk. In addition, the self-poisoning was intentional in all cases. Subjects were randomly assigned to an IPSST or control group. The IPSST consisted of five to six 60 minute weekly sessions which involved the instruction of the five general problem-solving steps. The control group treatment consisted of helping the patient to gain some insight into current problems and to solve these problems in a practical manner. The control group treatment was terminated when these goals were achieved. All treatments were conducted on an individual one-to-one basis. Multiple instruments were used for measurement at pretest, posttest and at six months post treatment. These included: the Means-Ends Problem-Solving Procedure (Platt & Spivack, 1977); the Optional Thinking Test (Platt & Spivack, 1977); the Awareness of Consequences Test (Platt & Spivack, 1977); the Self-Rating Problem-Solving Scale (McLeavey, Daly, Murray, O'Riordan, & Taylor, 1987); the Self-Perception Scale (Miskimins & Braucht, 1976); the Problems Questionnaire; and the Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974). The results indicate that both groups showed improvement in interpersonal problem-solving skills. However, the IPSST was more effective in enhancing problem-solving skills to a level well within normal range. The IPSST was also more effective in enhancing problem-solving efficacy. Furthermore, the IPSST group maintained these gains at six month follow-up and there was a greater reduction in repetition of self-poisoning at one year post treatment. Although it is not clear whether an efficacy component was a factor in the IPSST in this study, the results support the connection between an increase in problem-solving efficacy and maintenance of skills.

Schizophrenia

There have been several different types of therapeutic interventions used to teach cognitive skills to schizophrenic adults. These interventions have had mixed results. Bradshaw (1993) did a comparative study using coping skills training and problem solving training with 16 randomly assigned schizophrenia patients. The coping skills training required practice of skills within the group and the completion of homework assignments. The PST group were not required to practice specific skills within the group and there were no homework assignments. Also, the problem solving treatment did not include an orientation step. Results were significantly better for the coping skills group than for the PST group.

Tarrier, Beckett, Harwood, Baker, Yusopoff, and Ugarteburu (1993) also did a trial using coping skills enhancement or PST to reduce drug resistant residual psychotic symptoms in schizophrenic patients. A total of 27 patients were randomly allocated to one of the treatment methods or to a wait-list control group. Treatment was individual and of six weeks duration. Both the PST and the coping skills treatment were comprehensive and structured. Initial results suggested that the coping skills group had greater levels of change but a difference in pretreatment scores may have skewed the results. Although there was a maintenance effect at six months, it appeared to be deteriorating. Neither the coping skills group nor the PST group used the orientation step proposed by Nezu and Perri (1989). Both methods did include instructions for subjects on the purpose of the treatment but did not actively promote higher personal efficacy as part of the treatment.

A more convergent type of skills training has been used with individuals suffering from schizophrenia, with positive results. Brown, Harwood, Hays, Heckman, and Short (1993) assessed the effectiveness of cognitive rehabilitation for improving attention in patients with schizophrenia, from an occupational therapy perspective. They did not use a model of skills training which emphasized cognitive flexibility and divergent thinking, rather, they used structured, concrete interventions with both groups. The participants in these studies were given directions to assure minimal independent problem-solving, and creative cognitive engagement was discouraged. In a controlled study, thirty patients classified with negative schizophrenia were randomly assigned to either a traditional task-orientated occupational therapy program or to an Attention Process Training (APT) group. The research used a pretest-posttest design with four measures. These included: the Digit Span subscale of the Wechsler Adult Intelligence Scale (WAIS); the Visual Span subscale of the Wechsler Memory Scale Revised (WMS-R); the Digit Symbol of the WAIS; and the Trail Making Subtests A & B of the Halstead Reitan Neurological Test Battery. The traditional group received a one-to-one task-orientated occupational therapy program which aimed to improve cognitive skills through uniform directions for task completion. The APT group received one-to-one remedial training in five levels of attention (focused, sustained, selective, alternating, and divided) using mainly paper-and-pencil and auditory stimuli/motor response tasks. There did not appear to be an efficacy component in either the traditional task-orientated intervention or in the APT intervention. Both groups followed the same treatment schedule of three individual 60-minute sessions a week for 12 weeks. Results indicated that both groups showed a significant improvement in cognitive skills, particularly in

attention and memory. In this research, a "cold cognition" approach was used, that is cognition were treated separately from related affect and behavior. Given that cognition is the genesis of most affect and behavior, the usefulness of this approach is questionable. This type of approach may also be related to the lack of maintenance and generalization of skills.

Brenner, Hodel, Roder, and Corrigan (1992) evaluated the effects of Integrated Psychological Therapy (IPT) for schizophrenia, in a study conducted in Switzerland. IPT "is a structured intervention program that prescribes steps to remediate cognitive and behavioral dysfunctions that are characteristic of the psychopathology of schizophrenia" (Brenner et al.,1992, p.21). It consists of five hierarchical subprograms: (a) cognitive differentiation; (b) social perception; (c) verbal communication; (d) social skills; and (e) interpersonal problem solving. Feedback was also regularly given to subjects throughout this study. The processes that these steps address are within the scope of the five step problem-solving strategy defined in chapter one. Furthermore, the regular feedback provided an efficacy component to the study. Subjects were randomly assigned to one of three groups: IPT treatment; placebo-attention activities; or routine care alone. All subjects received similar medications during the course of the study. Cognitive and psychopathologic measures were taken pretreatment, after the three months of treatment, and at an eighteen month follow-up. Results showed that the IPT group scored significantly higher on tests of attention and significantly lower on measures of overall psychopathology in comparison to both other groups. Additionally, these effects were maintained at the eighteen month follow-up. These results further support the connection between the inclusion of an efficacy component and maintenance effects.

Finally, an interesting exploratory study by McNally and Goldberg (1997) analyzed the natural cognitive strategies of 10 community-based persons with schizophrenia. The results indicated that subjects used coping self-talk to deal with residual psychotic symptoms that were resistant to drug therapy. Coping self-talk is a natural cognitive strategy generated by the need to solve the problem of intrusive psychotic thoughts. McNally and Goldberg (1997) concluded that this natural use of problem-solving strategies could be built on to enhance daily living skills in this population. They also concluded that these results supported the use of a problem-solving intervention for this population.

Brain Injury

Delahunty, Frost, Morice, and Lambert (1991) explored the usefulness of neurocognitive rehabilitation for a 26 year old male who had suffered traumatic brain injury and developed chronic schizophrenia within two years post injury. Eight years after the injury, Delahunty et al. used a computer-assisted neurocognitive training program in an attempt to improve skills. The program addressed deficits in attention, visuoperception, memory, learning, sequencing and problem-solving. The results of the intervention were positive. Marked improvement was seen across most areas including problem-solving. Seven months after program completion, a follow-up assessment was scheduled. It was discovered at this time that the subject had been non-compliant with medication for the previous four months and had suffered an acute psychotic episode which led to hospitalization. Although the subject resumed taking his medication for one month prior to when the follow-up assessment was given, he continued to suffer from residual psychotic symptoms. The assessment showed that many of the skills taught had

deteriorated but the use of problem-solving strategies had improved. Delahunty et al. indicated that neural plasticity may explain the cognitive improvements seen in the subject. Considering the traumatic brain injury in addition to the schizophrenia, these results, which seem to be resistant to the effects of noncompliance with medication and residual psychotic symptoms, are very promising. They indicate that there may be an independent maintenance effect connected to training in problem-solving skills. In addition, they support research into the use of a problem-solving intervention for a variety of psychiatric populations.

Neurocognitive rehabilitation or cognitive retraining has been effective in other research with individuals who have experienced traumatic brain injury. Franzen and Harris (1993) had success teaching remedial attention and problem-solving tasks to an individual who experienced deficits in these areas after a closed head injury. A four year follow-up indicated that the subject had maintained these skills. Cramon and Cramon (1992) used a combination of individual and group PST sessions to assess the benefits of problem-solving training for a group of patients who suffered from problem-solving disorders as a result of brain injury. They compared the results to those of a matched group that received a memory training program of equal intensity. Both groups received training for 25 to 30 sessions. For the majority of patients in both groups, brain damage had occurred between six and 12 months prior to the research. The PST was intensive and the instruction process was designed to gradually empower the patient. The instructional process was similar to the Strategies Program for Effective Learning and Thinking (SPELT) and included continuous monitoring of results and feedback, training in the componemts of problem-solving thought, production of ideas or brainstorming,

and training for self-instruction. The effect of the training was evaluated through pretest and posttest scores on selected neuropsychological tests that are sensitive to problem-solving impairments. "Before and after" observations of behavioral aspects of problem-solving were also used as a measure of improvement. Results indicated that those who were in the problem-solving group showed significant improvement compared to the memory group. Furthermore, behavioral observation indicated that those who profited from PST maintained and adopted these skills to everyday life, to a certain extent. These maintenance and generalization effects were most likely due to the instructional design, which is very similar to that of the SPELT system. The SPELT system was designed to promote maintenance and generalization effects.

Heterogeneous Groups

Sautter, Heaney, and O'Neill(1991) developed a problem-solving instructional model that integrated groups and activities to focus on complementary parts of the problem-solving process, in an attempt to effect more rapid behavior change. A university general psychiatric ward was adapted to function as a cohesive problem-solving instructional unit. A diverse group of patients were rotated through sequential groups that facilitated progressively more advanced problem-solving skills. The sequential order of the groups was: Goal-Setting Group; Problem-Solving Group; Problem-Solving Teaching Group; Problem-Solving Laboratory; Expressive Arts Therapy; Community Feedback Meeting; and Goal Review Group. Expressive arts was used to focus on inappropriate attitudes that might negatively impact problem-solving behavior and community feedback was used to assess individual progress in reaching goals set in the initial group. Continuous positive reinforcement throughout the process

served as a self-efficacy component. Although Sautter, Heaney and O'Neill did not empirically demonstrate that this approach to problem-solving therapy was effective, staff members in the unit perceived it as being successful. Staff noted that patients' sense of control appeared to enhanced and their overall self-esteem seemed improved.

The results of these research studies support the effectiveness of problem-solving training for the treatment of a variety of psychiatric conditions. The research indicates positive results in subjects with mild to severe psychiatric conditions (including brain injury), ranging in age from adolescence to 65 years. The research results also indicate the importance of including an efficacy component in order to facilitate the maintenance of problem-solving skills. Nezu and Perri (1989) include this component in their PST as problem orientation, "...training in the problem-orientation process is geared to facilitate an individual's motivation both to actually apply the four problem-solving skills and to feel self-efficacious in doing so."(p.408). Given recent statistics on the prevalence and severity of mental illness and the increased cost of providing ongoing care to individuals living with chronic psychiatric illness, this type of therapeutic intervention appears to offer some alternative to more expensive options such as long-term hospitalization or assisted living.

The SPELT Instructional System

A promising instructional method which builds in generalization and maintenance of skills, is The Strategies Program for Effective Learning and Thinking (SPELT). The SPELT system was originally developed in 1987 by Mulcahy and Marfo as part of a longitudinal evaluation of cognitive education. It is a cognitive strategy based model, which combined the strengths of a traditional critical thinking skills model and an

information-processing model. It is based on the view that the efficient and spontaneous use of strategies, either self-generated or learned, characterizes the highest level of cognitive performance. The SPELT model is a spiral strategy curriculum with three phases. The first phase consists of direct teaching of strategies; the second phase supports the maintenance and generalization of strategies; and the third stage involves strategy generation by students. The model is orientated toward actively involving the student in the learning process. "Among the hallmarks of this orientation are: raising cognitive and metacognitive awareness; leading students to discover rather than revealing facts to them; and constantly challenging students to be critical, systematic, and strategic in their behavior and attitude toward learning" (Mulcahy, Short, & Andrews, 1991).

Although each phase of the SPELT method has specific goals that should be reached before advancing to the next phase, the approach is flexible and movement back and forth between phases is not uncommon. The goal of the first phase of SPELT is to raise the individual's awareness of strategies and to demonstrate their use and effectiveness. The goal of the second phase is for the individual to maintain the use of strategies and to become adept at modifying and applying (generalizing) strategies to different types of problems and situations. The goal of the third phase is for the individual to independently monitor, assess, and generate effective strategies outside of the instructional environment. In addition to these goals, the overall goal of the SPELT model is to nurture metacognitive skills with the intent of cognitively empowering the individual.

The SPELT approach has been and continues to be evaluated in research. A three year longitudinal study was directed by Mulcahy from 1984-1987. Approximately nine

hundred students (gifted, average and learning disabled), from grades four and seven, were involved. They were placed in either a control group, a group using the SPELT strategy, or a group using Feuerstein's Instrumental Enrichment (IE) Program. The results from the SPELT group were encouraging and showed evidence of more positive benefits for all participants, when compared to the control and I.E. groups. Positive effects were most pronounced for the grade four learning disabled students, particularly in reading comprehension and related strategies. This study was replicated in Australia with grades four, five, and six. The results were comparable, with the most significant benefits shown for learning disabled students.

Brenton-Haden conducted a study in 1997 which used the SPELT system with motivation/attribution training, to enhance performance and achievement in reading comprehension for children displaying attentional problems. Results indicated significant change in both metacognitive awareness and reading comprehension. Wiles conducted a similar study in 1997 using the SPELT system to investigate the impact of metacognitive training on the perceived control and perceived success of adult upgrading students in an academic setting. The results showed increased perception of success and, although perception of control did not show a significant increase, student feedback suggested that there had been some positive effect. Moench completed a study in 1998 which compared the use of the SPELT system with a behavior modification program as intervention for students with behavioral problems. The results showed that those who received behavior modification displayed an increase in problems at school, whereas those who received metacognitive strategies programming displayed a decrease in

problems at school, in addition to a decrease in problems at home. This suggests that students were generalizing the strategies from the school to the home.

Summary

It is clear from the review of the literature that there is a growing body of research that supports the instruction of problem-solving skills as a therapeutic intervention for a variety of psychiatric disorders and for problem-solving deficits resulting from brain injury. The literature further supports the inclusion of an efficacy factor in order to enhance the maintenance of these skills. In addition, it is very clear that extended maintenance and generalization of skills does not reliably occur unless an instructional process is used which was designed to promote these effects. The literature supports the use of the SPELT instructional method to facilitate the maintenance and generalization of skills taught.

Chapter Three

Methods

This study was exploratory in nature and followed a case study design. In order to facilitate comprehensive individual instruction and efficient collection of data only one participant was involved in the study. This allowed more time for the adjustment of instructional materials when necessary, and for variations in the instructional schedule when required. A pretest-posttest method was utilized to examine the results of the intervention, and a qualitative analysis was employed to describe the process. These two methods were used to collect data in order to investigate issues from multiple perspectives. This chapter will delineate the following: the rationale for this study; the process used to select the participant; a brief description of the personality, background and lifestyle of the participant; the consent and ethics requirements; a detailed outline of the pretest-postest instruments used; the data collection; and the data analysis.

Rationale

The purpose of this study was to explore the generalization and maintenance effects of the SPELT approach in teaching problem solving skills, including an orientation step, to a clinically stable adult with a chronic mental illness. The connection between positive self-efficacy, effective problem solving skills in daily living, and mental health has been firmly established in the literature. Although there have been some maintenance effects in previous studies that have used problem-solving instruction as a therapeutic intervention, these effects have not been consistent and generalization of problem-solving skills has not occurred. Consistent maintenance effects and generalization of skills are necessary for optimal results. Recent research in

the use of problem solving training as a therapeutic tool has indicated that the maintenance of skills may be dependent on an orientation step or efficacy component. The SPELT system was designed to promote the maintenance and generalization of thinking skills in addition to supporting self-efficacy or individual empowerment. Consequently, the indications for using the SPELT method to teach problem solving skills to the participant in this case study were promising.

Participant

The researcher advertised for a volunteer through community support groups for schizophrenia and bipolar disorder. These two support groups were chosen because the members that they represent have chronic and seriously debilitating illnesses which are controlled through medication. Generally, group members were clinically stable and they were motivated to find ways of dealing with their disease. The use of an educational intervention with a clinically stable, motivated subject is preferable because outcomes are less likely to be affected by disease symptoms, and the subject is invested in the success of the intervention.

The researcher also attended a weekly meeting of a schizophrenia self-help group, "Unsung Heroes," to further elaborate on the nature of the research and to provide a copy of the research proposal to anyone who was interested in participating. There were several group members who were interested in becoming involved in the research, however, many of the issues that they wanted to work on were complex emotional problems that would not be appropriate for this initial research project. The researcher had also made arrangements to attend a meeting of a depression self-help group called "The Bipolar, Depression and Manic Depression Group." However, before this meeting

a phone call was received from a member of this group who was very interested in participating in the research. After a long conversation with this group member, who will be called Elaine for the purposes of this research, it was determined that her initial problem was suitable for the research project. Furthermore, Elaine appeared to be strongly motivated to succeed. A more in-depth personal interview was conducted at the University of Alberta after which Elaine was selected to be the research participant.

Elaine was 55 years old when the research was completed. Both her parents and two of her brothers were deceased. She had one surviving brother who lived in Edmonton, whom she never saw. She was married and divorced once and had a grown son who she saw only a few times per year because he lived in Toronto. There was a family history of mental illness, Elaine's father was diagnosed as paranoid schizophrenic, in addition to a history of stroke and heart disease. Elaine had lived in Edmonton for fifty years. She was educated as a teacher at the University of Alberta, and worked for many years as a junior high and high school teacher. After 15 years of teaching adolescents she spent a summer teaching at the Drumheller Penitentiary. Following this, she worked for nine years as a home care coordinator for the Edmonton Medical Registry. According to Elaine, she began having depressive and suicidal episodes in 1986, when she was in her early forties. In 1987 she had her first manic episode. The police were called because of her psychotic behavior and she was taken to the University of Alberta Hospital. She was prescribed anti-psychotic medication and released from the hospital when the episode was over. Elaine recalled that she continued to have manic episodes interspersed with depressive, suicidal episodes and was arrested by the police on three more occasions. Eventually, she was taken to Alberta Hospital Edmonton

during a major manic episode where she was given a diagnoses of Bipolar Disorder. At the time the research was carried out she was on the following medications: (a) lithium for the bipolar disorder, (b) haldol for psychosis, (c) chlonazepan for anxiety, (d) zoloft for depression, and (e) rovaine for sleep. According to Elaine, she still has periods of depression approximately every six weeks, which last from three to six days. She also occasionally suffers from anxiety and displays some compulsive tendencies. Elaine is supported through Assured Income for the Severely Handicapped (AISH) and does not work. She speaks publicly about her disorder and was in the process of talking to different groups about the symptoms of the disorder during the period of the research. Her routine is regular and she appears to have a good support system. She sees her psychiatrist, her psychiatric nurse, and her family physician on a regular basis. Overall she presented as an outgoing, intelligent, self-reflective woman who was aware of her illness and its symptoms, and as someone who was motivated to work on her problems.

Consent and Ethics Requirements

Elaine signed a consent form which outlined the nature of the research and the approximate time involved. In addition, it stated that her right to confidentiality would be honored and that she could withdraw from the research at any time if she so chose. Furthermore, the results of the research would be made available to her upon completion of the study. These issues were also discussed at length with Elaine before she signed the consent form. The only other ethics requirement was that the researcher check with the participant's psychiatrist to ensure that the intervention would not interfere with treatment in any way. Elaine's psychiatrist was sent a copy of the research proposal. He stated that Elaine was competent to make her own decisions and he signed a letter

stating that Elaine could participate in the research project provided the intervention would not interfere with her treatment.

Instruments

There were four instruments used for pretesting and posttesting in this research design: the Adult Self-Perception Profile (Messer & Harter, 1984); the Coopersmith Self-Esteem Inventory (Coopersmith, 1981); the Problem Solving Inventory (Heppner, 1988); and Rotter's Internal-External Locus of Control Scale (Rotter, 1966).

The Adult Self-Perception Profile is a measure of self-concept. It assesses perceived competence/adequacy across eleven specific domains, plus general self-worth, for a total of twelve subscales. The scale consists of fifty items, four related to each domain and six related to general self-worth. Each question is forced-choice on a four-point scale. Structured alternatives were used in order to offset the inclination to give socially desirable responses. Each question is worded in both a positive and a negative format with a choice of "sort of true for me" or "really true for me" as an answer for each format. Individual administration takes approximately twenty minutes. A scoring key is provided and scores can be assessed for individual domains and overall general self-worth. The scale was administered to two samples; 141 parents ranging in age from 30 to 50, and 215 mothers with children under three years of age. Internal consistency reliability ranged from a high of .92 to .87 on the general self-worth scale for all samples. Reliability for individual subscales was for the most part adequate, ranging from .80 to .90, but there were a few instances of low reliability which suggests that caution should be used when interpreting the individual subscales. The following three subscales had low reliability: Nurturance - .65; Job Competence - .71; and Sense of

Humor - .75. For the purposes of this research, both overall global score and the individual subscales will be utilized for comparing pretest and posttest scores. Although the scale has not been normed on a clinical population, it has been useful in identifying areas of discomfort for clients, which has led to the setting of treatment goals in counselling.

The Coopersmith Self-Esteem Inventory Adult Form, consists of 25 items measuring self-esteem. Coopersmith defines self-esteem as " the evaluation a person makes, and customarily maintains, of him- or herself; that is overall self-esteem is an expression of approval or disapproval, indicating the extent to which a person believes him- or herself competent, successful, significant and worthy" (Coopersmith, 1981, p.1). The inventory can be administered individually or in group settings and takes approximately ten minutes. A scoring key is provided and scoring takes a minimum amount of time. Theoretically, scores can range from 0 to 100, totally negative or a totally positive self-esteem. Kuder-Richardson reliability estimates of .74 for males and .71 for females were reported for the Adult Form, with a group of 103 college students. Predicative validity for this form has not been estimated. Coopersmith points out that, since affective states are subject to unpredictable change, scores should be interpreted with caution.

The Problem Solving Inventory (PSI), is a 35 item self-report instrument which was designed to measure individuals' perception of his/her problem-solving capabilities, or level of self-efficacy as problem solvers. The inventory provides a general problem-solving self-efficacy score and scores on the following three problem-solving dimensions: (a) Problem-Solving Confidence; (b) Approach-Avoidance Style; and (c)

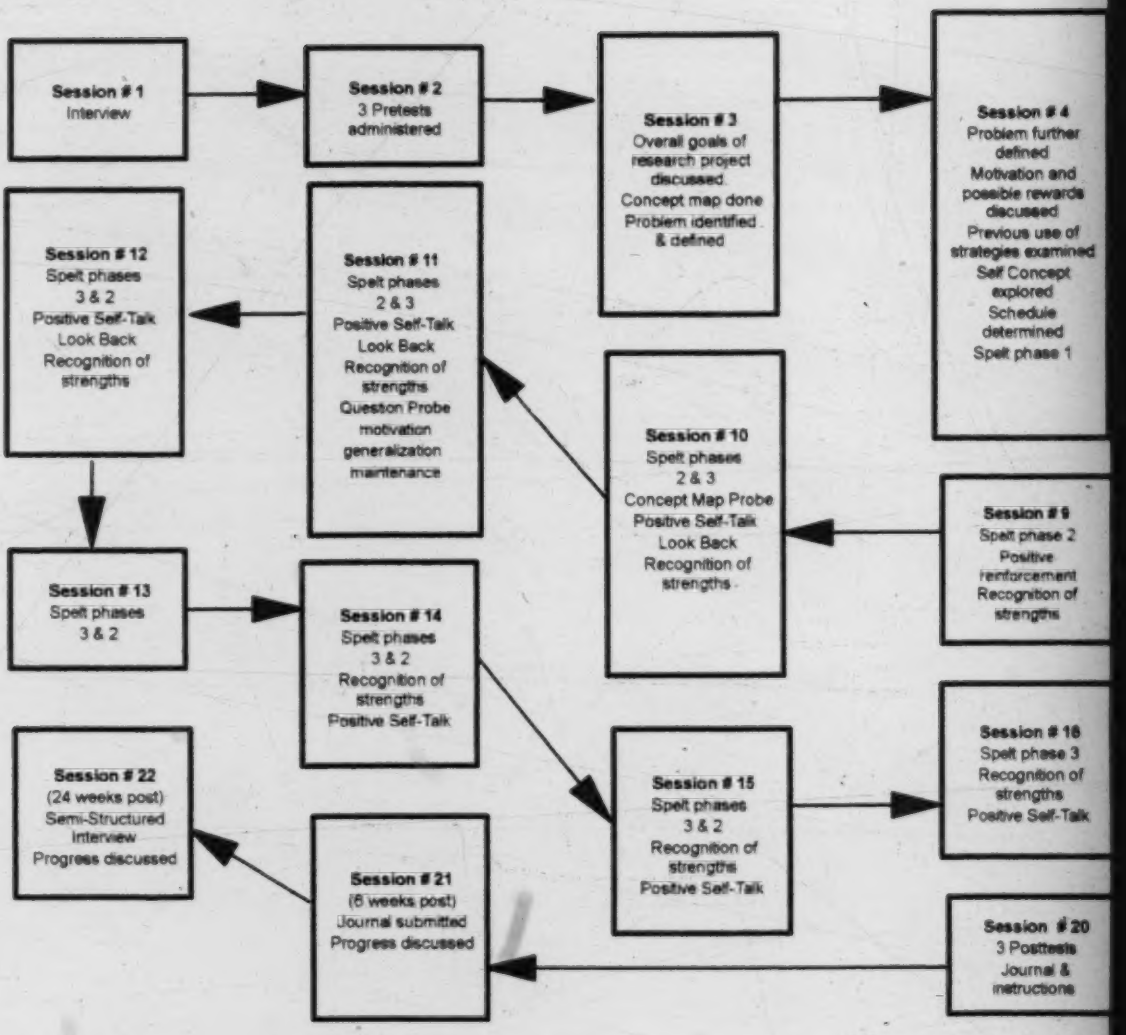
Personal Control. The instrument was developed to provide clinicians with clients' appraisals of their skills in the area of problem-solving, in order to facilitate therapeutic intervention. The instrument uses a 6-point Likert type scale for responses, with 1 representing " strongly agree" and 6 representing " strongly disagree." A scoring key is provided for the PSI and it can be administered individually in approximately 15 minutes. Heppner (1988) reports test-retest reliability estimates of the PSI, based on a two week duration, as follows: Problem-Solving Confidence, $r = .85$; Approach-Avoidance Style, $r = .88$; Personal Control, $r = .83$; and the Total Inventory, $r = .89$. The internal consistency (Cronbach's alpha) coefficients were: Problem-Solving Confidence, .85; Approach-Avoidance, .84; Personal Control, .72; and Total Inventory, .90. In terms of construct validity, all PSI correlations with the Rotter I-E Scale were statistically significant. For this study, both the total inventory score and the subscale scores were utilized for a comparison of pretest and posttest scores.

Rotter's Internal-External Locus of Control Scale is a test consisting of 29 pairs of statements (six of these are filler statements) which assess, " a person's perception of contingency relationships between his [or her] own behavior and events which follow that behavior " (Conoley & Impara, 1995, p.227). Each pair consists of an internal and an external statement, one of which is selected. The scale is self-administered and can be completed in approximately 15 minutes. Scores can range from 23 (most external) to 0, (most internal). An internal consistency coefficient (Kuder-Richardson) of .70 was obtained from a sample of 400 college students. In terms of validity, the scale has been used in a substantial number of internal-external locus of control investigations and the

literature indicates that the Rotter scale is sensitive to individual differences in the perception of control over personal destiny.

Data Collection

All evaluation and instructional sessions took place at the University of Alberta. Sessions were approximately 90 minutes in length and were scheduled from 1.30 p.m. to 3.00 p.m. on Tuesdays and Thursdays every week. All educational sessions were tape recorded and transcribed by someone not involved in the research. The process used to guide these sessions was the SPELT method, a three phase instructional method that supports the maintenance and generalization of skills taught (this method is described in detail in chapter two). Also, a journal was maintained, in which were recorded specific teaching strategies and their effectiveness in addition to the researcher's overall qualitative impressions. A flowchart illustrates the order and content of the sessions in Figure 1. The four pretests were administered over the first five sessions in the program. In addition, a concept mapping probe was used, before instruction began, to establish a beginning level of skill for Elaine. Next, the IDEAL problem-solving strategy was directly taught in accordance with the first phase of the SPELT instructional method. The IDEAL problem- solving strategy consists of the following five steps: (a) I - identify the problem, (b) D - define the problem, (c) E - explore strategies to deal with the problem, (d) A - act on a strategy after looking at projected outcomes and deciding on a feasible strategy, and (e) L - look at the results of the application of the strategy and, if it did not work, return to the previous step and decide on another strategy. This phase concluded with a brief verbal test probe to assess the level of learning that had occurred.


Session # 1
Interview
Session # 2
3 Pretests administered
Session # 3
Overall goals of research project discussed.
Concept map done
Problem identified & defined
Session # 4
Problem further defined
Motivation and possible rewards discussed
Previous use of strategies examined
Self Concept explored
Schedule determined
Spelt phase 1
Session # 12
Spelt phases 3 & 2
Positive Self-Talk
Look Back
Recognition of strengths
Session # 11
Spelt phases 2 & 3
Positive Self-Talk
Look Back
Recognition of strengths
Question Probe motivation generalization maintenance
Session # 10
Spelt phases 2 & 3
Concept Map Probe
Positive Self-Talk
Look Back
Recognition of strengths
Session # 9
Spelt phase 2
Positive reinforcement
Recognition of strengths
Session # 13
Spelt phases 3 & 2
Session # 14
Spelt phases 3 & 2
Recognition of strengths
Positive Self-Talk
Session # 15
Spelt phases 3 & 2
Recognition of strengths
Positive Self-Talk
Session # 16
Spelt phase 3
Recognition of strengths
Positive Self-Talk
Session # 22
(24 weeks post)
Semi-Structured Interview
Progress discussed
Session # 21
(6 weeks post)
Journal submitted
Progress discussed
Session # 20
3 Posttests
Journal & instructions

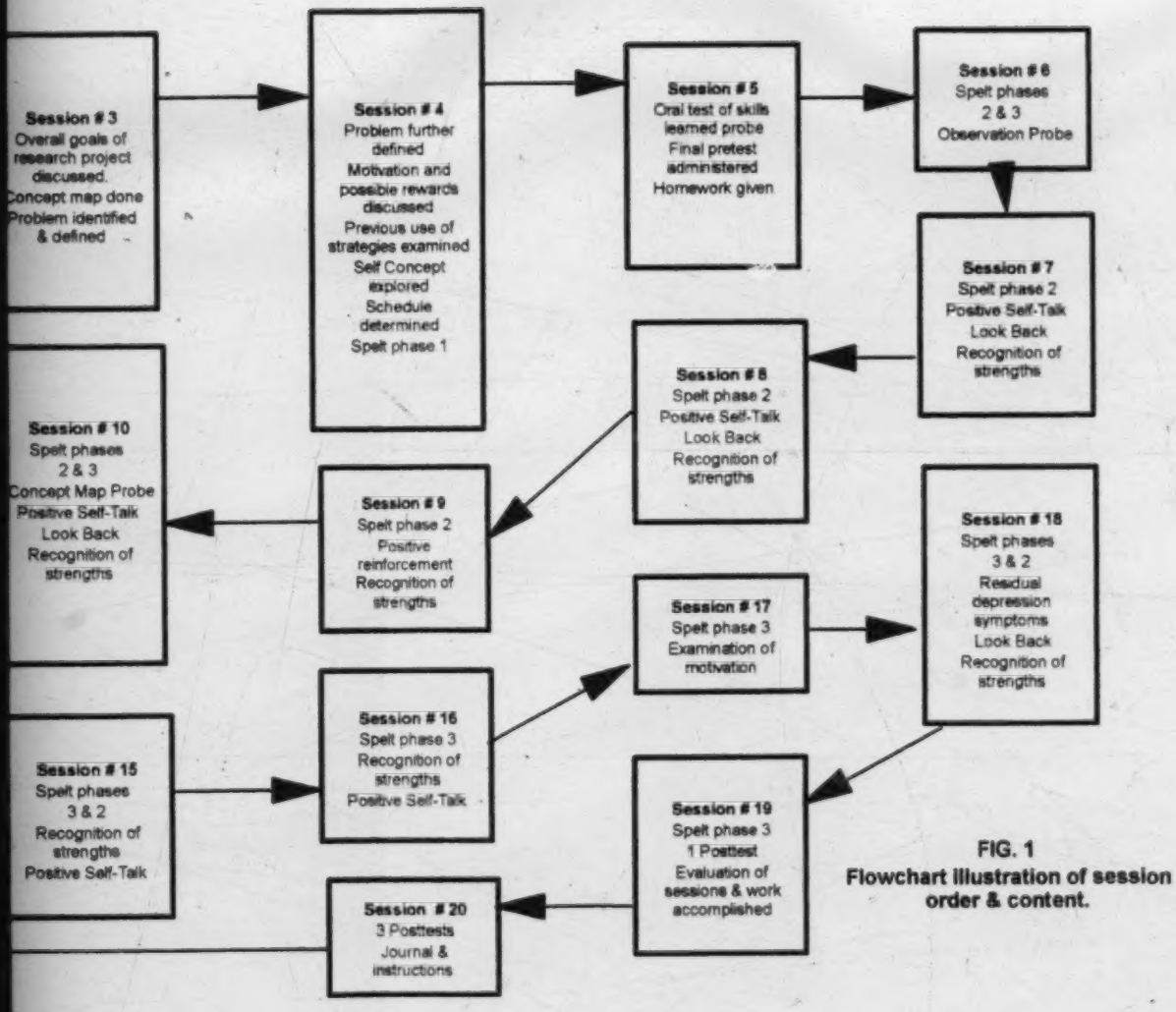


FIG. 1
Flowchart illustration of session order & content.

The second phase of the research involved the researcher modeling the application of the process and then Elaine applying the process to another problem. Initially, the researcher applied the process to a problem that had significance for Elaine. In this case her immediate concern was her difficulty in maintaining a clean home. This problem had become so severe that she was afraid she would eventually be evicted from her apartment. This was causing escalating anxiety which appeared to further negatively impact Elaine's ability to clean her apartment. Consequently , she became overwhelmed and decided to seek help. The researcher demonstrated the application of IDEAL using this problem as a model. The larger problem was broken down into smaller issues, strategies were generated, projected results were analyzed, decisions were made as to which strategies would be most effective and then Elaine acted on the chosen strategies. Overall results were then examined and different strategies were chosen if those initially decided upon had not been effective. At the end of this period, results were examined and discussed. Elaine was then asked to use a concept map to apply the same process to another problematic situation in her life. Her application of the process was evaluated to determine the degree of generalization and maintenance that had occurred.

The third phase of the research involved real world generalization and consisted of assessing Elaine's application of the process in an outside environment. Serendipitously, Elaine made a trip to visit her son in Toronto at approximately this point in the research. She decided to use the process to help her to cope in new social situations, which generally cause her anxiety. The assessment of the real world application stage was accomplished qualitatively through examination of Elaine's experiences and her level of success and comfort in using the process. In addition to

being used for evaluation purposes, all interim assessments were used as progress charts for Elaine. Gains were emphasized and acknowledged, and a " Recognition of Strengths" component, which delineated all previous accomplishments, was frequently included in individual sessions. Furthermore, the researcher consistently included Positive Self-Talk as part of Elaine's homework assignments. The Recognition of Strengths component and the Positive Self-Talk homework were included in order to increase Elaine's awareness of her successes and to remind her of her capabilities. This had a positive impact on her self-efficacy. Following this last stage, four posttests were administered over two sessions. Finally, Elaine was given a structured daily journal which she used as often as possible for the next six weeks. The following three questions were to be answered daily (if possible): (a) "Did you use the IDEAL strategy?"; (b) "What did you use it for?"; and (c) "Did it work?" The journal was returned six weeks after the sessions were finished. A final semi-structered interview was conducted with Elaine 24 weeks after the sessions had finished, to determine if the strategy had been maintained and if it had continued to be generalized. The project began in early April and finished in October, when the final interview was conducted.

Data Analysis

The data were analyzed in several different ways. Self-perception, problem-solving skills, level of self-esteem, and locus of control were compared to determine degree of change. Significant results from pretests and posttests were described using descriptive graphs. The transcripts from the tape recorded sessions were first compared to the researcher's journal notes to preview important themes, and then these data were qualitatively analyzed using a grounded theory approach. The data were

analyzed both deductively and inductively. First, the data from the transcripts were treated deductively using categories delineated by selected questions that the research addressed. The research attempted to answer the following questions: (a) Has there been improvement in self-perception, self-esteem, problem-solving skills and locus of control? (b) Have problem-solving skills been generalized and maintained? (c) If so, has the SPELT method of instruction facilitated these effects? (d) Do these results support further research with the SPELT system? For each of the following categories used in the deductive analysis, the researcher read through all the transcripts and color coded any references to the concepts described. The first of these four questions generated three categories which were coded using a sentence-by-sentence analysis. Concepts of self-perception and self-esteem were categorized under the umbrella category of "Self-Concept." This included any reference to how Elaine saw herself and felt about herself. It also included any reference to how she believed others saw her and felt about her. For example, the statement, "I feel better when the apartment's clean." indicates what Elaine is feeling and therefore it is coded under the category "Self-Concept." Concepts related to problem solving or any of its sub-processes, including questions regarding any of these processes or sub-processes, were categorized under the name "Problem Solving." An example of this is Elaine's statement, "I have cleaned out the refrigerator." This statement was a response to an inquiry about a homework assignment related to the initial housework problem and it would be coded under the category "Problem-Solving." Concepts related to personal empowerment were categorized under the name "Locus of Control." This also included thoughts and decisions related to personal empowerment. Statements that began with "I think," or any decisions that

Elaine made, are examples of what is coded under this category. The second of the four questions dealt with two concepts, the generalization and maintenance of skills. They were categorized under the name, "Skills," and they were coded using a page-by-page analysis. Items coded under this category included any use of the problem-solving strategy to specific homework assignments and to other areas. It also included any inquiries about how to use the process in other areas. The third of the four questions was dependent on the results obtained from the second question and dealt with the concept of the effectiveness of the teaching process. It was categorized under the name, "SPELT Effects," and was coded using a session-by-session analysis. Both the specific and overall SPELT goals were used to guide this process.

Once the deductive analysis was complete, axial coding was used in a page-by-page analysis in order to look for causal conditions and action/interactional strategies (Strauss & Corbin, 1990) which had an impact on the success or failure of the generalization and maintenance of the problem-solving strategy. Axial coding is " A set of procedures whereby data are put back together in new ways after open coding, by making connections between categories" (Strauss & Corbin,1990, p.96). Axially coded data were only analyzed deductively for this research project. This analysis was undertaken in the hope of generating valuable information necessary for the ongoing development of a successful problem-solving intervention, which could be used in future research and, eventually, in clinical intervention.

Next, the data from the transcripts were analyzed inductively, in order to find any emerging themes or patterns. Finally, the last of the four questions was addressed after all the results, including those from the pre- and posttests, were analyzed and discussed.

These analyses were subjected to an audit trail in order to protect against the effects of researcher bias.

Chapter Four

Results and Discussion

The results are presented and discussed in the following order. First, the pretests and posttests will be compared to determine if there were any changes in measures of self-perception, self-esteem, problem-solving skills and locus of control. This is followed by a review of the results of the deductive analysis, which will include a discussion of any discrepancies between the qualitative and the quantitative data. Next, causal conditions or action-interactional strategies that were found during axial coding will be presented. This will be followed by an examination of the results of the inductive analysis. Finally, the fourth research question, "Do these results support further research with the SPELT system?" will be addressed.

Pretests and Posttests

As outlined in chapter three, there were four instruments used in the pretests and posttests. These included: (a) The Adult Self-Perception Profile; (b) The Coopersmith Self-Esteem Inventory; (c) The Problem-Solving Inventory; and (d) The Rotter Internal/External Locus of Control Scale.

The Adult Self-Perception Profile. This profile, as described in chapter three, is a measure of self-concept which assesses perceived competency-adequacy across eleven specific domains plus general self-worth, for a total of 12 subscales. These specific domains, as described by Messer and Harter (1986), are: (a) Sociability - refers to one's behavior in the presence of others; (b) Job Competence - taps perceptions of competence in one's major occupation, job, or work; (c) Nurturance - involves the process of caring for others; (d) Athletic Abilities - pertains to the concept of abilities related to sports;

(e) Physical Appearance - refers to the way one looks; (f) Adequate Provider - is defined as supplying the means of support for oneself and one's significant others; (g) Morality - one's behavior based on standards of conduct of what is right and wrong; (h) Household Management - refers to guiding or handling activities in the household; (i) Intimate Relationships - implies close, meaningful interactions or relationships with one's mate, lover, and/or very special friend; (j) Intelligence - is defined as the ability to learn and know; (k) Sense of Humor - pertains to the ability to see the amusing side of things; and (l) Global Self-Worth - one's global perceptions of worth, independent of any particular domain of competency-adequacy. The means and standard deviations used for comparison on all scales were obtained from Messer and Harter (1986). They provided an average mean and standard deviation in each domain for all females sampled. These females were all parents ranging in age from 30 to 50, and they were either full-time homemakers, part-time workers, or full-time workers.

As stated in chapter three, the overall global scores from both the pretest and the posttest were used for comparison. Elaine's global scores for the pretest and the posttest were identical at 2.83, which was within one standard deviation of the mean. The mean is 3.18 and the standard deviation is .55 for all females sampled. However, the subscale distribution, which contributed to this global score, changed from pretest to posttest (see Figure 2). The subscale scores measuring Job Competence, Adequacy as Provider, and Household Management all fell more than two standard deviations below the mean in the pretest. Posttest scores on all of these subscales increased by more then two standard deviations, which placed them all within the average range. The subscale score for Morality was more then one standard deviation above the mean in the pretest

Figure 2

	Global Self	Sociability	Job Comp	Nurturance	Athletics	Appearanc	Provider	Morality	Household	Intimate R	Intelligence	Humor
Pretest	2.83	3.75	2.5	4	1.5	2.75	1	4	1	3.25	2.75	4
Posttest	2.83	3.5	3.5	3.75	1	3	3.5	2.5	3	3.25	2.5	3.75

but fell to more then one standard deviation below the mean in the posttest. All other subscales showed very little change as they all fell within one standard deviation of the mean for both pretest and posttest.

There were only four subscales that demonstrated significant differences from pretest to posttest. These are Job Competence, Adequacy as Provider, Household Management, and Morality. As stated in chapter three, the Job Competence subscale score had a reliability of .71, and therefore must be interpreted with caution. The increase in the Job Competence subscale score reflected the following changes in Elaine's perceptions. She appeared to perceive herself as more productive, competent and proud of her work. This result was expected and is supported in the literature. Bandura (1997) notes that, "Accomplishments with sub-goal markers increase perceived self-efficacy and self-satisfaction"(p. 137). Two processes served as sub-goal markers and they were integral parts of the educational intervention and comprised some portion of most sessions. These processes, which were designed to increase judgments of personal capability (i.e.,self-efficacy), involved recognizing strengths and practicing positive self-talk.

The increase in the Adequacy as Provider subscale score indicates that Elaine perceived herself as better able to meet her own material needs. Given that there was no increase in her income over the period of the research, the score may reflect a generalization of Elaine's perceived efficacy with regard to her productivity and competence. According to Bandura(1997), generalization can occur when "...different classes of activities are governed by *similar subskills*" (p.51). The subskills for household tasks are similar to those required for other job tasks.

The increase in the Household Management subscale score indicates that Elaine saw herself as being more organized and efficient at household tasks. Again, this is most likely related to an increased sense of self-efficacy, resulting from her marked success in completing homework assignments and in outlining a maintenance schedule for future household tasks.

The downward trend in the Morality subscale score is the result of a shift in Elaine's degree of certainty about whether she is living up to her moral standards. She evidenced less certainty on the posttest then she did on the pretest. This type of self questioning may be indicative of an increase in her use of metacognitive skills (e.g., critical thinking and self-reflection), which is one of the overall goals of the SPELT method (Mulcahy, Short, & Andrews,1991, p. 81).

Although not apparent in the overall posttest score, it appears that there has been a shift in self-perception. This is evident in a pretest versus posttest comparison of the Job Competence, Adequacy as Provider, Household Management, and Morality subscale scores. This shift appears to have been facilitated by the continued successful application of the problem-solving strategy in addition to recognition of these accomplishments.

The Coopersmith Self-Esteem Inventory, Adult Form. This is an inventory which attempts to quantify the evaluation that a person makes with regard to herself or himself. It has only one subscale, General Self, which contains questions relative to self. Elaine's pretest and posttest scores were 64 and 52 respectively. In most studies the means have generally ranged from 70 to 80 and the standard deviations have ranged from 11 to 13 (Coopersmith,1981, p.8). Following the procedure used by Messer and Harter (p. 42) an

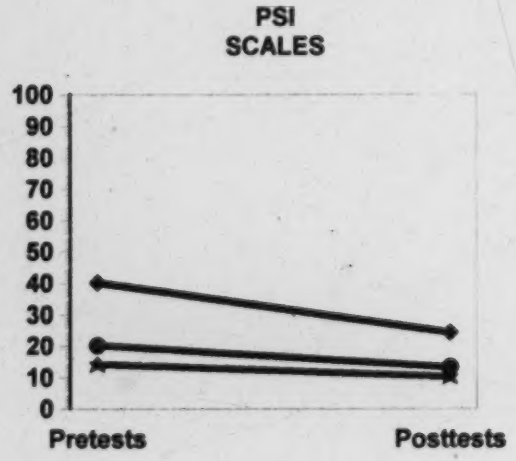
average mean of 75 and an average standard deviation of 12 were used for this research. Elaine's pretest and posttest scores were within one standard deviation of each other but her posttest score was more then one standard deviation below the mean. An examination of the pretest and posttest responses revealed that the three items that caused a lowering of the posttest score were related to family expectations and general discouragement. Although this lowering of self-esteem levels was not expected, it can be explained. Several connections need to be considered when interpreting it. Aleksiuk (1996) defines self-esteem as "the absence of feelings of inferiority and worthlessness" (p. 243). Collier(1994) states that "overall level of self-esteem is based on social comparison" (p.87). An increase in self-reflection (which is indicated by the Morality subscale scores) would also increase awareness of the life altering consequences of chronic mental illness. This, in turn, could engender feelings of inferiority or worthlessness which would affect overall self-esteem levels. In other words, an increased awareness of the limitations of her disorder may have negatively impacted Elaine's self-esteem. Given Elaine's high levels of self-efficacy, it might be expected that her self-esteem would rise accordingly. However, a high level of self-efficacy is not necessarily equated with a high level of self-esteem. According to Bandura(1997) "There is no fixed relationship between beliefs about one's capabilities and whether one likes or dislikes oneself "(p. 11).

The Problem Solving Inventory. This is an instrument that is designed to assess an individual's perception of her/his problem-solving behaviors and attitudes. The instrument consists of three scales, defined by Heppner(1988) as: (a) Problem-Solving Confidence - self-assurance while engaging in problem solving activities; (b) Approach-

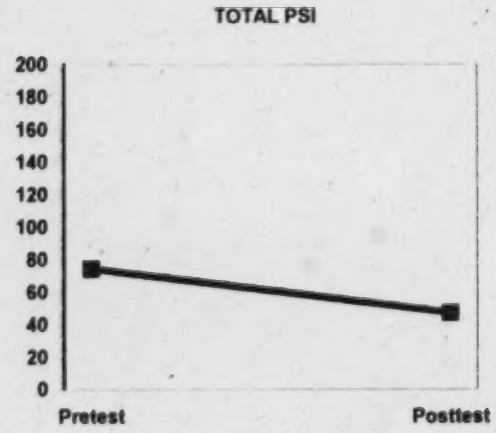
Avoidance Style - a general tendency of individuals to approach or avoid problem-solving activities; and (c) Personal Control - the extent to which individuals believe that they are in control of their emotions and behavior while solving problems. Low scores on the inventory represent positive appraisals of problem-solving abilities. Elaine's pretest and posttest scores were 74 and 47 respectively. The mean for females is 88.3, the standard deviation is 18.9, and the standard error of measurement is 6.3 (Heppner,1988). Elaine's pretest score was within one standard deviation of the mean and her posttest score was more than two standard deviations below the mean. In addition, her posttest score was more than one standard deviation below her pretest score. These changes are significant and the same trend is seen in the subscales (see Figure 3). Elaine's Problem-Solving Confidence score was 20 on the pretest and 13 on the posttest. The mean for females on this subscale is 26.1, the standard deviation is 7.3, and the standard error of measurement is 2.8 (Heppner,1988). Although Elaine's pretest and posttest scores are within one standard deviation of each other and her pretest score is within one standard deviation of the mean, her posttest score is more than one standard deviation below the mean. Her pretest and posttest scores on the Approach-Avoidance Style subscale were 40 and 24 respectively. The mean for females on this subscale is 44.3, the standard deviation is 11.2, and the standard error of measurement is 3.9 (Heppner, 1988). Elaine's pretest score is within one standard deviation of the mean and her posttest score is more than one standard deviation below the mean. Also, the difference between her pretest and posttest scores was more than one standard deviation. Pretest and posttest scores on the Personal Control subscale were 14 and 10 respectively.

Figure 3

Problem Solving Inventory



	Pretests	Posttests
Approach-A	40	24
Problem-So	20	13
Personal Co	14	10



	Pretest	Posttest
Total PSI	74	47

The mean for females is 17.9, the standard deviation is 4.5, and the standard error of measurement is 1.9 (Heppner, 1988). Elaine's pretest and posttest scores are within one standard deviation of each other and her pretest score is within one standard deviation of the mean. Her posttest score was more than one standard deviation below the mean.

These positive trends indicate that Elaine has an increased belief and trust in her ability to cope and that she perceives herself as being more capable of using problem-solving skills than she was before the educational intervention. This result is supported in the literature and is most likely a direct result of both the efficacy processes (i.e., recognizing strengths and practicing positive self-talk) and the problem-solving instruction. Previous research involving the instruction of problem solving skills to adults living with chronic psychiatric illness has generally produced positive results (Bradshaw,1993; Catalan et al.,1991; Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson,1995; Tarrier et al.,1993) . In addition, Nezu and Perri (1989) found that including a problem orientation or efficacy component when teaching problem-solving skills increases the effect of the intervention. Bandura (1997) states that, "perceived efficacy both facilitates the development of strategies and affects how well they are used once they are acquired"(p.225).

Rotter's Internal/External Locus of Control Scale. This scale assesses a person's perception of the contingency relationships between his/her behavior and events which follow this behavior (Conoley & Impala, 1995). As previously stated in chapter three, scores can range from 23 (most external) to 0 (most internal). Elaine's pretest score was 6 and her posttest score was 10. Although she has an internal orientation, the trend was

more external in the posttest. This pattern could be due to test-retest instability or more likely, it could indicate a shift that is explained in the literature. Research on the relationship between locus of control and types of psychiatric disorders suggests that those who are manic are significantly more internal than individuals with other types of psychiatric disorders. However, after treatment intervention these individuals tend to become more external as they become more cognitively aware (Lefcourt,1982). Furthermore, Elaine's overall internal orientation may be relative to her success in learning and using the intervention. The literature suggests that those with an internal orientation are more likely to learn better, to react less strongly to negative events, and "to use preventive and corrective measures to facilitate health and recovery" (Collier, 1994, p.75).

Journal Notes

The researcher's journal notes were used session by session to guide the research in the SPELT process, to keep track of homework assignments and their completion, to record specific teaching strategies and their effectiveness, and to keep note of the researcher's impressions. Important themes in these notes, which parallel those found in the transcribed data from the tape recordings, are further explained in the deductive and inductive analyses.

Deductive Analysis of Transcripts

As outlined in chapter three, there were five categories used in the open coding process and these were based on the original research questions. These categories (described in more depth in chapter three) were called: (a) Self-Concept - which included concepts of self-perception and self-esteem; (b) Problem-Solving - which included

concepts related to problem-solving or any of it's sub-processes; (c) Locus of Control - which included concepts related to personal empowerment; (d) Skills - which included concepts related to the maintenance and generalization of skills; and (e) SPELT Effects - which included concepts related to the effectiveness of the teaching process.

Self-Concept. The self-concept category was coded with respect to the property of emotional tone. This tone had a dimensional continuum ranging from negative to positive. A sentence-by-sentence analysis revealed that the self-concept category generally ranged from negative to positive along this dimensional continuum as the sessions progressed from the first to the twenty-second session. The one exception to this trend occurred when Elaine experienced a depression after returning from a trip to Toronto.

Sessions one through four generally had a negative tone. Elaine was more pessimistic about her ability to do the work and she seemed to have a relatively low opinion of herself. When initially discussing the problem of cleaning her apartment, she said, "...this is hopeless. Too much mess to clean up." At the following session she stated that she had had an insight,

> I realized that I think what the real problem is, is that I'm angry that I'm alone.... Well, I just feel that there's no reason to clean up. It's just me, and unless there's another person there, it's of no value to clean up. Everything can stack up and just decay, and I'm comfortable at living in that, because there's no one else around. If there was someone else around, I'd feel the need to keep things neat and tidy. But for myself, I don't see the value, I guess it's a self-esteem thing, that I don't see the value of doing it for myself.

This generated a discussion about possible motivators for Elaine. She acknowledged that she missed having people in her home and that she would like to be able to invite people in, "I would feel pride, that things looked great and that everything looked orderly, and that I could find things when I wanted them, and that I wouldn't have to be ashamed to answer my door."

Sessions five through sixteen had a more positive tone. The discussion about motivation was the start of a shift in Elaine's emotional tone. She began to do the homework assignments and she soon began to see a change in her surroundings. She expressed more positive feelings about herself and about her home such as, "I've been very proud of myself and ... I've done a wonderful job." Also, " I'm starting to feel a sense of pride about my apartment." There appeared to be an increase in Elaine's motivation and her self-efficacy.

> I think things are healthier....it's a healthier environment. I'm more motivated to do things. I know that I can do this to a point where it's going to look nice. And I've taken more pride in it being a home, rather than a junkyard where I sleep and eat....I think it's really coming along. I really feel good about it.

This trend in Elaine's emotional tone continued and it appeared to have a positive impact on her perception of herself and how she interacted with the outside world. Her anxiety about meeting new people and telling them about her illness, which had caused her considerable stress, was worked through using the problem-solving strategy. She ultimately came to the conclusion that, " I can only be who I am." She decided that if she were asked about her illness when she met new people, she would tell, "...the whole

story." Furthermore, "...if people can't accept me, then they can't accept me, because I am what I am....I'm not ashamed of having an illness."

Elaine made a trip to Toronto after session sixteen and she suffered an episode of depression when she returned. She said that she had found the trip, "...very stressful." The depression kept her in bed for two days and she did not feel very good about herself when she returned for session seventeen.

> I feel useless. I feel...I just feel in general that I'm wasting my life. I feel as though I'm not as good as other people. Anybody. It doesn't matter if he's a mass murderer, he's better than I am. And I just feel...kind of ...I think a lot about work and why I'm not working. And I just generally feel blah.

Elaine needed direction in using the problem-solving strategy and help in generating strategies to help her to deal with the residual symptoms of this depression. She worked on the application of the strategies and, by the next session, she had returned to her previous level of accomplishment. She suggested that, because her apartment was clean, she felt better faster because she was "...happy in the apartment instead of disgusted." She continued this positive trend through the end of the educational intervention.

This trend appeared to continue through the two final sessions, which were six weeks and twenty-four weeks after the intervention was finished. In the final session, Elaine shared some of the effects that the research had had on her feelings about herself. She said that she's "...feeling stronger." She also said, "I've learned to use humor as a stress reliever, and I feel really good about that, because I like to laugh....And I feel that it gives me some sense of perspective."

Self-Concept was measured with respect to the property of emotional tone. This tone had a dimensional continuum ranging from negative to positive. The sentence-by-sentence deductive analysis indicated that this tone generally started negative and progressed to being more positive as the sessions progressed from one through twenty-two. This positive trend is not seen between the pretest and posttest scores on the Adult Self-Perception Profile or the Coopersmith Self-Esteem Inventory. However, it was evident on selected subscales of the Adult Self-Perception Profile. These subscales measured perceptions of competency, productivity, adequacy as a provider, and efficiency at household tasks. The successful application of the problem-solving strategy in addition to the recognition of this success, appears to have facilitated this shift in self-perception. In other words, an increase in self-efficacy created an increase in selected subscale scores from pretest to posttest. A review of the deductive analysis of Self-Concept reveals that Elaine made only one negative reference to self-esteem throughout the research project. Thus self-esteem was not a mitigating factor in the positive trend seen in this category. This suggests that the concept was more a measure of efficacy beliefs -which are part of self-perception- than self-esteem. Consequently, Elaine's increase in self-efficacy is most likely responsible for the positive trend seen in the Self-Concept category as the sessions progressed. Therefore, the results of the qualitative analysis of the Self-Concept category support the results found on four subscales of the Adult Self-Perception Profile. These were Job Competence, Adequacy as Provider, Household Management, and Morality. These subscales reflect the same concepts selected for the qualitative analysis. Furthermore, the reference to self-esteem

found in the deductive analysis was of a negative nature which coincides with the results of Coopersmith Self-Esteem Inventory.

Problem-Solving. Problem-solving was coded along a dimensional continuum which ranged from dependent use of the strategy to independent use of the strategy. A sentence-by- sentence analysis indicated that Elaine used the problem-solving strategy in a manner which progressed from dependent use in early sessions to her using it independently in later sessions. She required cueing and help with strategies in one later session in which she was dealing with residual symptoms of depression. The following session summary demonstrates Elaine's progression from dependent use of the problem-solving strategy to her independent use of it.

In sessions one through four, Elaine's initial problem was explored and any strategies that she was currently using were highlighted. The point of this exercise was to demonstrate to Elaine that this was a process (a) that she was already using and (b) that she was having success using. For instance, because Elaine does not cook she needed to find a way to eat a balanced diet without having to pay restaurant prices that she could not afford. To solve this problem she had made an arrangement with one of her friends to shop and cook for her in exchange for a fee. The friend then delivers enough meals, to last for an agreed upon period of time, in microwavable containers. As a result, Elaine eats a well balanced diet without the stress of having to shop and cook for herself. This was highlighted as a good example of how she was already using problem-solving skills.

In sessions three through six Elaine's problem-solving was situated at the dependent end of the dependent/independent continuum. She designed a concept map in

session three, outlining her feelings about housework in general. In this map, Elaine described housework in the following terms: boring, a waste of time, too much to clean up, and hopeless. Her initial problem was also identified and defined in this session. In session four, Elaine's initial problem was further defined and she was given the five steps of the IDEAL strategy to learn. In session five, an oral test confirmed that she had learned the strategy. Elaine accurately named and defined the five steps of the IDEAL strategy at the researcher's request. Next, strategies were explored regarding her housework problem and she was given homework to complete.

Elaine was shifting away from the dependent end of the dependent/independent continuum by session six. She described how she had spontaneously used a problem-solving strategy for a problem that had been ongoing for some time. She decided to have her meals delivered in disposable plastic bags because she was having difficulty regularly cleaning the plastic containers that they usually came in. This problem was a subset of the bigger problem she was working on at the time, which was cleaning her kitchen. Her homework had been to clean the plastic containers in her kitchen, but she realized that this was not something that she wanted to do anymore so she found an alternate solution to her problem. Elaine also inquired about how to use the problem-solving strategy in other area,s in session six. Specifically, she asked how it could be applied in terms of mental illness.

In sessions seven through ten, Elaine continued to work on her homework assignments and made significant progress on her initial problem. In session ten she designed another concept map, again outlining her feelings about housework. In this map, Elaine described housework in the following terms: satisfying, tedious, gratifying,

and time-consuming. While she still found it "tedious" or "boring" as she first described it, she now said it was "time-consuming" rather than "a waste of time." In addition, she now found it to be "gratifying" rather than "hopeless." Elaine also began discussing the independent application of the strategy to another problem in session ten.

The trend towards the independent end of the dependent/independent continuum is evident in sessions eleven through eighteen when Elaine used the strategy to deal with several personal issues, to finish household tasks and to develop a maintenance plan for her housework. The first issue Elaine worked on independently was the completion of household tasks. In session twelve she used the problem-solving strategy to break down the task of cleaning her bedroom. She listed all the separate chores, estimated the cost (i.e., laundry detergent and change for the laundry room), and set up a time line to complete the project by the time she left for her trip to Toronto. Although she did not meet her original time line, she succeeded in completing the project after she returned from her trip to Toronto.

The second issue she worked on was her fear of losing her financial support if she appeared to be too well. She also dealt with this issue in session twelve using the problem-solving strategy. She explored her fears in depth and developed realistic strategies to cope with these fears. The strategies included getting more information about the conditions of her continued support (i.e., AISH policies), writing to her MLA, letting her doctor know how often she had episodes of depression in order to keep a record of her disability, and talking to her psychiatric nurse if she felt overwhelmed. Next, Elaine used the strategy to deal with communication problems within her support group, which were interfering with the group's public activities. She used the

problem-solving strategy to develop an understanding of this problem from different perspectives and to generate strategies to deal with it. Her first strategy was to diplomatically bring the communication issue up at the next meeting. She acted on this strategy and was successful in finding a solution to the problem without alienating members of the group.

The fourth issue she applied the problem-solving strategy to was her perceived lack of reciprocation in her relationship with her nurse, whom she sees on a regular basis. In session fourteen, Elaine used the strategy to explore ways to show her appreciation to her nurse. She found several inexpensive ways to let her nurse know how much she was valued. These included sending her a birthday card, sending her a postcard from Toronto during her trip, and writing her supervisor a letter indicting that she was an excellent nurse. Following this, Elaine developed strategies for dealing with her forthcoming trip to Toronto. This occurred during sessions fifteen and sixteen. Many of the strategies that she explored revolved around her indecision as to whether or not to be open about her mental illness during her trip to Toronto. Ultimately, she decided that "I can only be who I am."

The sixth problem she used the approach on was her relationship with a close friend whom she felt was not allowing her to grow. She felt that her friend often took control of their time together and treated her like a child. In session seventeen, she used the problem-solving strategy in an attempt to find strategies with which to balance the friendship. For instance she decided that they should each have an equal vote in choosing which activities that they did together, and they should have more open discussions about how they felt. Finally, Elaine used the strategy to develop a

maintenance plan for her apartment. This was also completed in session seventeen. She used the problem-solving strategy to determine which tasks would need to be done on a regular basis and to create a weekly schedule for these tasks which did not interfere with her appointment routine and which could be managed with relative ease.

The issues were varied and they generated diverse solutions. Some of the issues simply required a change in perspective, others needed to be dealt with by putting a plan on paper or by doing physical work, and a few required that she work out ways to facilitate better communication with group members and friends. However, all of the these problems appeared to be easier for Elaine to deal with when she used the problem-solving strategy.

After Elaine returned from her trip to Toronto, she suffered a depression. In session eighteen, she worked on strategies to deal with the residual symptoms of this depression. She needed more cueing then she had in sessions eleven through seventeen and many of the strategies were given to her. These strategies included thought stopping, relaxation techniques, switching perspective or reframing, negotiation with self, and humor. Elaine wrote down these strategies and worked on them at home. When she returned for the last educational session, she had learned and used all the strategies and she was feeling better. Furthermore, she had used some of the strategies retrospectively, switching perspective and humor, on situations that had occurred during her trip. In addition, she had completed the household tasks that she had planned and she was maintaining her apartment.

Elaine returned her journal six weeks after the posttests. She had recorded two major issues on which she had used the problem-solving strategy. The first issue

concerned someone who was harassing her in her local coffee shop and the second issue concerned her cutting back on her smoking. In both cases she had arrived at a successful result by using the problem-solving strategy. In addition, she stated that she had used the strategy more often than was recorded in the journal, but she had difficulty writing everything down. In the final interview, twenty-four weeks after the posttests, Elaine described how she had handled a recent situation using the problem-solving strategy. She had presented her needs in a difficult situation (with an authority figure) and she was successful in meeting those needs. One of her concluding remarks was, "...I've learned to break down issues into manageable bits...And to solve them from there."

Problem-solving was coded along a dimensional continuum which ranged from dependent use of the strategy to independent use of the strategy. The deductive analysis indicated that Elaine progressed from dependent use of the strategy to independent use of the strategy as the sessions advanced. This positive trend is in agreement with the results of the Problem Solving Inventory. The posttest score shows significant improvement both in the perception of problem-solving abilities and in the use of problem-solving skills. As stated previously, these results are supported in the literature and are most likely the result of both the efficacy processes and the problem-solving instruction.

Locus of Control. Locus of control was coded with respect to the expression of statements about personal empowerment. A sentence-by-sentence analysis indicated that there were only two sessions, eleven and sixteen, in which Elaine spontaneously expressed statements that were about personal empowerment. These statements were intended as explanations of why she was not empowered, but the act of sharing them was, in itself, empowering. In all the other sessions, she was receptive to suggestions and

she responded to questions which were about personal empowerment, but she did not initiate statements without some form of prompting.

In session eleven, Elaine was beginning to see the results of her work and she began to reflect on the effect of the changes in her environment. She said, " I was looking around this morning and I was thinking, 'You know, I don't feel so depressed in the morning when I get up and everything looks nice.'" This generated a conversation about why Elaine's housekeeping habits had deteriorated. She indicated that her diagnoses of mental illness had had a devastating effect on her; "I still don't trust myself....I took such a hard blow when I became ill that I lost a lot of my self-confidence....It's like taking your whole self away from you and saying, 'Now reconstruct something out of that.'"

In session sixteen, Elaine had reached a decision regarding being honest about her mental illness during her upcoming trip to Toronto.

> I'll be honest....Because I think it's important for people to be honest about these illnesses and to alleviate stigma. And I think it's important to start with your family and friends and to educate them. And it's [mental illness] not a scary thing.

Both of these instances were focused on Elaine's illness. The first was an explanation of why she did not feel empowered and the second was about her decision not to hide her illness. The processes of self-reflection which were necessary to reach an understanding and to make a decision in these situations were, in themselves, acts of personal empowerment. In the final interview, twenty-four weeks after the posttests, Elaine

responded to the statement that she seemed to be in control, with, "I feel as though I am [in control]...I do feel that I am."

Locus of Control was coded with respect to statements about personal empowerment. The deductive analysis indicated that there were only two instances where Elaine spontaneously expressed statements that were related to personal empowerment. Furthermore, in both these instances the statements were not intrinsically empowering. Rather, the self-reflection which produced them and the act of sharing them were empowering. Rotter's Internal/External Locus of Control Scale indicated that Elaine's orientation is internal, although there was a trend toward the external in the posttest. These results could be the result of test-retest instability but it is more likely that the trend seen was a result of the intervention. Although this scale and the Locus of Control category do not appear to measure the same thing in this case, the following connection should be considered. According to Collier (1994, p.75), Rotter initially speculated that individuals at either extreme of the internal/external scale were less adapted in terms of psychological adjustment. Thus, Elaine's sharing of her self-reflective thoughts may parallel her trend toward the external which, in turn, may indicate better adjustment.

Skills. Skills were coded with reference to the maintenance and generalization of the problem-solving skills taught. A page-by-page analysis indicated that maintenance and generalization of these skills did occur in a progressive manner. The only exception to this progression was in session eighteen, when Elaine was dealing with residual symptoms of depression and she needed help with developing strategies because as Elaine says, "...the problem with depression is the lack of concentration."

In session five, an oral test of skills indicated that Elaine had learned and maintained the five steps in the problem-solving strategy. By session six, she had generalized the problem- solving process to a long-standing issue regarding kitchen maintenance and she had reached a workable solution to her problem. Also, in this session she inquired about further generalizing the process to aspects of her illness.

In sessions eleven through seventeen Elaine successfully generalized the process to a variety of diverse problems. These problems are more completely described under the "Problem-Solving" analysis. They included issues related to fears and anxiety, interpersonal problems, communication problems, and maintenance of household tasks. Although these issues required solutions ranging from changing perspective to facilitating better communication to writing down plans and physically carrying them out, Elaine was successful in finding the appropriate solution for each of them.

In session eighteen, when Elaine was dealing with the residual symptoms of depression, she needed help in finding appropriate strategies. By session nineteen she had learned these strategies and had generalized some of them (e.g., reframing and humor) to her relationship with her son and to incidents that had occurred on her trip. For example she said that she had used the reframing strategy to change her perspective on her relationship with her son.

> " I came up with the fact that he's in a stage right now, and I'm in a much different stage. And he will grow more and I will grow more and we'll be closer as time goes on. So I was using the...strategy there.

She also used humor retrospectively to deal with her expectations of her son while she was visiting him in Toronto. " I was thinking. You know when I came back from my

trip I was so depressed....I was thinking how funny this whole situation is. It's so funny. You've got this absolutely certifiable, middle-aged woman who's demanding grandchildren." Elaine also applied the process to developing a maintenance schedule for her apartment in session nineteen.

Elaine returned her journal, six weeks after the posttests, in session twenty. She had maintained the problem-solving strategy and she had generalized the process to two situations. The first situation involved her being harassed in her local coffee shop and the second situation involved her decision to cut back on the amount that she smoked every day. She implemented successful strategies to deal with both situations.

In session twenty-two Elaine participated in a final interview, twenty-four weeks after the posttests. She had not maintained her household tasks nor had she maintained a lower level of smoking. However, she had maintained the problem-solving strategy and she was still generalizing it to diverse issues in her life. She had used it to express her needs in relation to her illness and to take more control of her treatment. She was proud of her success and stated, "I'm feeling stronger....I took action." Although Elaine did not always use the strategy consciously she said, "I use it automatically. It's like I don't think of the steps, but I go through it."

The occurrence of maintenance and generalization effects using the SPELT method of instruction to teach skills, is also supported in the literature. This method had successful maintenance and generalization effects for Mulcahy and Associates (1993) in teaching cognitive strategies to elementary and junior high students; for Brenton-Haden (1997) in motivation/attribution training to enhance performance and achievement in reading comprehension for children displaying attentional problems; for Wiles (1997) in

metacogintion training of adult upgrading students; and for Moench (1998) in teaching metacognitive strategies to students with behavioral problems.

SPELT Effects. SPELT effects were coded with reference to the relationship between the SPELT teaching method and the maintenance and generalization of problem-solving skills. A session-by-session analysis indicated that the goals of each phase of the SPELT method were reached. These goals included the maintenance and generalization of the skills taught. In addition, the overall goal of metacognitively empowering the individual was also reached.

The goal of the first phase of SPELT is to raise the individual's awareness of strategies and to demonstrate their use and effectiveness. By session six, Elaine's awareness had been raised and she had learned the specific IDEAL strategy. The use of this strategy had also been demonstrated to her using her initial housekeeping problem. The researcher had broken down several small subsets of Elaine's overall problem and developed strategies for dealing with them. Elaine had enacted these strategies and reached several successful resolutions.

The goal of the second phase of SPELT is for the individual to maintain the use of the strategy and to become adept at modifying and applying (e.g., generalizing) the strategy to different types of problems and situations. In sessions six through ten, Elaine maintained the use of the strategy while she continued to work on subsets of the larger housework problem. In sessions eleven through seventeen, she successfully adapted the strategy to a variety of problems (internal and external) which involved emotional, interpersonal, and communication issues.

The goal of the third phase of SPELT is for the individual to monitor, assess, and generate effective strategies to aid her in daily living. Elaine began the process of generating effective strategies in sessions eleven through seventeen because the IDEAL strategy has an implicit requirement for the generation of strategies. She first began monitoring and assessing her use and generation of strategies in session sixteen when she was dealing with her upcoming trip to Toronto. In session eighteen, she briefly regressed to the second phase when she needed some help from the researcher in generating strategies while using the problem-solving strategy to deal with the residual symptoms of a depression. However, by session nineteen, she had returned to independent generation of strategies and she continued to monitor and assess her progress. These goals continued to be maintained through session twenty-one, when she returned her journal, and session twenty-two, when she participated in the final interview.

The overall goal of the SPELT method is to empower the individual, metacognitively. From Elaine's perspective, this appears to have been accomplished. According to Elaine, she is "...feeling stronger." Originally, she had seen the researcher, "as a counsellor" someone who could help her to deal with daily living problems. At the final interview she was asked how this perspective had changed and she responded, "I don't need you to be a counsellor." Furthermore, she confirmed that she felt as if she were in control.

The attainment of the goals outlined for the SPELT method of instruction appears to have facilitated the generalization and maintenance of problem-solving skills. Furthermore, the literature supports the fact that the SPELT method of instruction facilitates these maintenance and generalization effects. Previous studies by Mulcahy

and Associates (1993); Brenton- Haden (1997); Wiles (1997); and Moench (1998) have all used the SPELT method to teach different skills and all have evidenced maintenance and generalization effects.

Causal Conditions and Action/Interactional Strategies. Causal conditions and action-interactional strategies were coded with reference to those conditions or strategies which had an impact on the success or failure of the maintenance and generalization of the problem-solving strategy. A page-by-page deductive analysis indicated that there was one primary factor influencing Elaine's effective maintenance and generalization of the problem-solving strategy. This factor was the involvement of another person or persons in the situation to which she applied the strategy. In other words, she appears to need external support in relation to the problem situation in order to maintain and generalize the strategy. This is most evident in the history and progression of her housework problem as described below.

In session two Elaine stated that her problem with housework was not evident when she was married nor when her son used to visit her regularly. In session four she said, "...I think what the real problem is, is that I'm angry that I'm alone....unless there's another person there, it's of no value to clean up." This indicated that Elaine had a history of only doing household tasks when there was another person in her home on a regular basis.

Elaine was regularly given a homework schedule which broke down tasks into manageable components, so that she would not become overwhelmed or discouraged. In session seven, when she was asked if she had completed her homework schedule, Elaine responded, "To tell the truth, I did most of it just as we were coming up to meeting again.

Like I could see your face and I knew that I'd better get this done." In session eight, when asked the same question, she again replied that she had done it that morning because "I saw your face and I knew that it had to be done." Both responses were given with laughter. In session eleven, Elaine clarified these two responses by explaining that it was the researcher who motivated her to do her housework. She further explained,

> You have a real sense of caring about the project. Like you give me a sense that you do, in fact, care that I get a clean apartment. And I respect you greatly....I would like to please you, and I would like a clean apartment; so when I hear from you, that connection kicks in and I say, "Here is someone that I would like to please and someone - that I would like to live up to their expectations."

Elaine is clearly stating here that she is doing the household tasks in order to please the researcher.

In session eighteen she was dealing with the residual symptoms of depression and she did not get a lot of work done. She expressed feelings of anxiety regarding her relationship with the researcher "I'm afraid of disappointing you, like I was thinking that maybe you would like to have another subject who is better....You know, I'm really afraid. I was thinking yesterday that I have let you down, and you have done so much for me." Elaine's fear of letting the researcher down, because she was unable to complete work that she had planned to do, again indicates that she is driven by her need for external support.

In the final interview, Elaine indicated that she had not maintained the housework that she had worked so hard on completing nor had she maintained a lower level of smoking. In both of these situations, the external support that was initially present had

been removed. Consequently, in both cases, Elaine had not maintained her progress. Furthermore, some form of external support was evident in the other areas in which Elaine had maintained and generalized the problem-solving strategy. The communication problems that she dealt with using the strategy involved her support group and a good friend. The uncomfortable relationship she used the strategy to resolve involved her nurse. Her use of the strategy to deal with anxiety around her trip to Toronto involved family. The harassment issue in her local coffee shop involved other people. Finally, Elaine's use of the strategy to present her needs in a difficult situation involved another person who was an established authority figure for her.

This pattern of success in the maintenance and generalization of the strategy supports the existence of an external support factor that influences long term outcomes. This factor was not anticipated. It suggests that ongoing supervision and/or contact with an extended period of fading may be necessary in order to promote maintenance and generalization effects without the influence of an external factor.

Inductive Analysis of Transcripts

The inductive analysis of the transcribed data elicited valuable insights about mental illness. Elaine is an intelligent and self-reflective woman and her willingness to share her experiences and her views provided the researcher with an opportunity to develop a deeper understanding of the process that individuals might go through when they become mentally ill. She described her thoughts and actions at different stages of the process she went through when she was learning to accept and live with her illness. These stages went from denial and despair through internalization and acceptance, and ultimately resulted in Elaine speaking publicly about her illness.

When Elaine first became symptomatic with Bipolar Disorder, she denied that she was ill. According to Elaine, this was not just a normal reaction to bad news or because she feared the stigma of mental illness, it was because the manic phases of her illness were like an addictive drug. "There is a reason why people don't acknowledge [this] illness. They like the highs....the highs feel so good....That you don't want to give them up....you don't care about the people around you....It's very addictive."

When she finally accepted her illness, it was with despair. Shortly after she came out of Alberta Hospital when she was first diagnosed with Bipolar Disorder, Elaine attempted to kill herself by swallowing all her haldol. She described her overwhelming sense of despair,

> I thought, "You know I'm 50 years old, I'm living in a basement room, and I have a mental illness. I wish I could just forget it all." And I looked at my pills, and I thought Halydol would make me go to sleep. So I took all my Halydol, the whole week's worth. And I went to sleep.

After three days of sleep a friend found her. Eventually she was taken to the hospital where it took ten days for her to recover. She described days of being, "stiff as a coat hanger," due the effects of the medication, when she had to be turned in bed because she could not move on her own.

When Elaine finally began to accept her illness, she was overwhelmed by the implications of having a mental disorder.

> I think that I may have been damaged by the illness; that the experiences that I've had may have set my mind on a different track or a different speed than that of the average person....if I had pressure and stress put on me I might not be able to

> cope...it may bring on symptoms. And I fear that I don't see the world anymore in the way normal people do and that I might not act in a way that is appropriate....I may act differently, and always have to hide the fact that I have an illness.

On the other hand she also realized, " What a magnificent experience it was to be ill....Because it gives you an extra dimension to yourself that other people don't have."

The struggle to find a middle ground was difficult. Elaine said that it took her a while to reach a "normalization stage." Now, she doesn't " talk about manic depression as much as she used to."

> For a while, I became kind of proud of being manic depressive....It made me set apart from others and I had been down more agony roads then anybody else could ever imagine. And I had suffered more. And I had been to the point of bliss. And I thought it was the most fascinating thing in the world....I thought everybody would be thrilled to hear about it....But now I don't feel that need any more. It's just, I take my pills and I have a disorder and that's it.

Eventually, Elaine became acclimated to her illness to the point where she began to speak publicly about mental illness.

> ...telling people about my illness is, I think good, because I have suicidal lows and I have psychotic highs....it's helpful for people to hear about my experiences and to learn that I'm doing normal activities and living a normal life....I think it's very worthwhile.

She used humor when she spoke about mental illness and she usually included a witty account of her haldol overdose when she talked about the process of accepting the illness. Elaine's insights into her journey through denial, despair, and the extremes of

covert and overt internalization, to a place of integrated acceptance, provide a valuable insight into the process of regaining balance after diagnoses of a chronic mental illness.

Summary

In general, there do not appear to be any obvious discrepancies between the qualitative and quantitative data. The self-efficacy factor appears to be responsible for the increase in selected subscale scores on the Adult Self-Perception Profile, in addition to the positive trend seen in the Self-Concept category. Although self-esteem does not appear to be a mitigating factor in the Self-Concept category, the qualitative and quantitative data do support each other. Elaine's negative comment about her self-esteem, which was found in a review of the deductive analysis, supports the relatively low posttest score on the Coopersmith Self-Esteem Inventory. The problem-solving instruction and the increase in self-efficacy appear to be responsible for the significant improvement in posttest scores on the Problem Solving Inventory, and for the trend toward independent problem-solving seen in the deductive analysis. Although the Locus of Control concept does not appear to be a measure of Rotter's Internal/ External Locus of Control Scale, the results of the deductive analysis may parallel the trend toward an external orientation found in the pretest/posttest comparison.

The skills taught were maintained and generalized, for the most part, and this effect is supported in the literature. In addition, there is evidence, both through the attainment of SPELT goals and the literature, that the SPELT method was responsible for the maintenance and generalization effects. Finally, there is evidence of an external support factor that influences the long term maintenance and generalization of the skills taught.

Do these results support further research with the SPELT system? The results of this research indicate that the SPELT approach to problem-solving instruction supports the generalization and maintenance of problem-solving skills to daily living for an adult woman who is living with Bipolar Disorder. Although these results cannot be generalized to the adult psychiatric population at large, there is reason to believe that the SPELT method of instruction would be effective in facilitating the maintenance and generalization of problem-solving skills in other psychiatric populations. The literature indicates that the instruction of problem-solving skills in different psychiatric populations has had positive results. Research has shown that problem-solving therapy has been successful in reducing depression and hopelessness in suicidal individuals (Lerner, 1990); in reducing the number of visits to physicians for patients with emotional disorders (Catalan et al., 1991); in treating patients with major depression (Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995); in helping schizophrenic patients avoid relapse (Bradshaw, 1993); and in helping schizophrenic patients to deal with residual psychotic symptoms (Tarrier et al., 1993). However, because these interventions have primarily been focused on short-term instruction with an emphasis on immediate results, the skills learned have not been effectively maintained and generalized over time. This has negative implications for quality of life. The results of this case study support further research in the use of the SPELT method of instruction to facilitate the maintenance and generalization of problem-solving skills to other psychiatric populations.

Chapter Five

Conclusions and Recommendations

The purpose of this study was to determine whether the SPELT approach to instruction facilitated the generalization and maintenance of problem-solving skills to daily living for a clinically stable adult with a chronic psychiatric disorder. The data collected were both quantitative and qualitative. Pretests and posttests were administered before and after the SPELT method was used to guide instructional sessions in problem-solving. All these instructional sessions were tape recorded. Data were analyzed both quantitatively and qualitatively. Pretests and posttests were compared to determine if there was any degree of change, and transcripts of the tape recorded sessions were analyzed both deductively and inductively. The deductive analysis used categories derived from the main research question. Finally, quantitative and qualitative data were compared to look for discrepancies.

This chapter will include: a discussion of factors that should be considered when reviewing the results of this research study; the conclusions reached from the results of this study; and the recommendations based on these conclusions.

Factors to consider

There are two factors which need to be considered regarding this study. The first pertains to the participant, and the second pertains to the data.

Participant Factors. Although it has not been addressed in this study so far, there are two participant variables which definitely affect the data collected. These are residual psychiatric symptoms and medication effects. Although both these variables affect outcomes, the reason that they have not been addressed is because they would be

impossible to factor into a study of this nature. Psychiatric symptoms vary not only from disorder to disorder but from individual to individual within disorders. Furthermore, even those symptoms which are similar between individuals may manifest differently due to medication effects or other environmental influences. In addition, many individuals who live with chronic psychiatric disorders are prescribed multiple medications. The participant in this study was taking a combination of five different medications over the course of the research. The combinations and permutations of side effects from this drug cocktail prohibit their inclusion as a variable in this study. In fact, it would be very difficult, if not impossible, to use either of these factors as a controlled variable in any study of this nature.

Data Factors. Although the quantitative data were collected and evaluated on site, the qualitative data, in part, were based on self-reports. The participant gave the researcher biweekly reports regarding her use of the problem-solving strategy. The researcher then interpreted these data in terms of problem-solving use, and maintenance and generalization of problem-solving skills. Although from the researcher's perspective, it seems likely that these reports were accurate, the possibility of participant bias must be considered. However, it should be noted that the process of applying the problem-solving strategy to the types of situations that were reported, whether real or simulated, would facilitate maintenance and generalization.

Conclusions Reached

The main research question asked in this study was: Does the SPELT approach to problem-solving instruction facilitate the maintenance and generalization of skills to daily living for an adult living with chronic psychiatric illness? There were four

subquestions generated from this main question and the instruments used in the research. These were: (a) Has there been improvement in self-perception, self-esteem, problem-solving skills and locus of control? (b) Have problem-solving skills been generalized and maintained? (c) If so, has the SPELT method of instruction facilitated these effects? (d) Do these results support further research with the SPELT system? The conclusions reached from the results of these questions will now be reviewed. The conclusions based on the results of the subquestions will be presented first, followed by those based on the main research question.

The results indicate that there was an improvement in at least one factor related to self-perception. This specific factor appears to be self-efficacy. Improvements were also seen in problem-solving skills. There was no indication of improvement in either self-esteem or locus of control. These same results were found in both the quantitative and qualitative data. The results of this subquestion leads to the following conclusions. Measurements of self-esteem and locus of control did not provide relevant information for this particular study. For future research, it might be more productive to include an instrument that measures self-efficacy or self-efficacy in the problem-solving domain. In addition, given that the goal of the intervention is to improve quality of life, an instrument that measures this concept would be a valuable asset. Also, a pretest/posttest measure of symptom severity might give more information on the relationship between metacognitive awareness in problem-solving and the control of psychiatric symptoms.

The deductive analysis of the qualitative data indicated that the problem-solving skills had been successfully generalized and maintained. However, there was also evidence that this result was dependent on an external support factor. The participant

appeared to maintain and generalize the problem-solving skills only to situations that directly or indirectly involved another person. The deductive analysis also indicated that the SPELT method of instruction did facilitate these maintenance and generalization effects by meeting both the overall goals of the SPELT system and the goals in each of the three phases. The results of these two subquestions lead to the following conclusion. The SPELT system would more effectively facilitate the maintenance and generalization of skills if a longer period of instruction with extended fading were used in future research. This extension of the research timeline might help to eliminate the need for an external support factor.

The last subquestion resolved that the results of this study do support further research. Given the positive results with maintenance and generalization, there is reason to be hopeful that, with some changes to the research design, results from future research will be applicable to a broader psychiatric population. These changes to the design should include a refinement of the timeline factor in order to deal with the external support factor, the use of a more diverse subject population, and the inclusion of more productive instruments that measure efficacy, quality of life, and symptom severity.

A summary inspection of the results from the quantitative analysis and from the deductive analysis of the transcripts, indicates that the SPELT approach did facilitate the maintenance and generalization of the problem-solving skills to daily living. The conclusion from this result is the same as that from the last subquestion. That is, that future research using the SPELT approach in the instruction of problem-solving skills to an adult psychiatric population is warranted.

The results from the inductive analysis of the transcripts indicate that in Elaine's case there was a process that she went through when she was learning to accept and live with her illness. This process consisted of stages that took her from denial and despair through internalization and finally to acceptance. Elaine's process reflects a passage through the stages that Kubler-Ross (1969) described in her book, On Death and Dying. Kubler-Ross initially recognized these stages as part of a process that people go through when they are faced with tragic change. Eventually, if they complete the passage, they arrive at acceptance of the change. This begs the question: Is Elaine's current "healthy" attitude toward her disorder the result of this process? If so, does this process perform the same function for other psychiatric populations? Further research in this area might indicate if this process is a necessary component of adjustment.

Recommendations

Given the recent CMHA statistics on mental illness and the cost (both human and economic) to society, and the negative impact of chronic psychiatric disorders on quality of life, any effective remedial intervention should be further explored for the purpose of application. The SPELT method, when used in the instruction of problem-solving skills, promises to be an effective remedial intervention. Therefore, further research in this area is recommended. With respect to this research, the subject population should be randomly chosen from a broad psychiatric population. This would allow the results to be generalized to diverse groups within the population. Furthermore, timelines should be extended to attempt to control the external support factor. Finally, the instruments used should adequately reflect the concepts being affected and the population specific characteristics that are likely to be impacted by the intervention.

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Appendix A

Client Consent Form

I agree to participate in a research study being conducted by Keina Allan which involves the learning of problem-solving skills that can be applied to everyday living.

I understand that if I choose to participate, I will be attending a 90 minute instructional session twice a week, for six weeks.

I also understand that these instructional sessions may involve leaving the university environment, accompanied by Keina Allan, in order to practice the skills learned in the outside world.

In addition, I understand that I will be completing four measurement scales at the beginning and the end of the instructional sessions.

I understand that the entire study will require approximately six weeks of involvement and that I can end my participation at any time.

I also understand that my name will not be used in any part of this research.

I understand that the results of the research will be made available to me upon completion of the study.

Signature_____**Date** _____